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A CLINICAL LECTURE.

LACERATION OF THE CERVIX; OPERATION; VENTRAL ABSCESS.

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DELIVERED AT THE PHILADELPHIA HOSPITAL.

[Reported for THE MEDICAL BULLETIN by J. W. WEST, M.D.]

LACERATION of the cervix. This is one of the most frequent lesions with which we have to deal in the treatment of gynæcological diseases. Investigations vary greatly as to its frequency. My investigations in the wards of this institution lead me to believe that a slight fracturing or fissuring of the cervix occurs as frequently as does tearing of the fourchette.

To this is due the transverse slit in the multipara, rather than the round dimple seen in the virgin or multiparous uterus. While this lesion has been spoken of by Blundell, Gardner, and others, its pathological significance occurred almost simultaneously to two Americans—Emmet and Pallen—the former in New York, studied its effects upon general and local health and devised an operation for its relief; the latter, in St. Louis, performed a primary operation upon a patient for the prevention of hemorrhage.

The lesion occurs most frequently upon the left side, as we would expect from the greater frequency of left occipito-anterior presentations. Next in frequency are the bilateral tears, then we have tears through the anterior and posterior lips.

The question is often asked why this occurrence should be so frequent. We may be led to doubt the adaptability of the organs to the accomplishment of Nature's processes, or question the wisdom of the means employed by the attendant, which results in the production of such a lesion in the accomplishment of a physiological process. In this, however, we have another evidence of the penalty woman pays for advancing civilization.

While by this we could draw the inference that there are diseased conditions of the cervix and uterus in which the production of this lesion could not be avoided, we would emphasize the point that it is only by careful study of the causes of its occurrence, we are enabled to institute means to prevent it. Causes may be divided into those due to the mother, to the child, and to the attendant.

We may regard as predisposing causes, all inflammatory conditions of the cervix and cervical mucous membrane.

An inflammatory or catarrhal condition of the cervical mucous membrane affects by contiguity the muscular tissue, the increased connective tissue or plastic exudation diminishes the elasticity of the cervix, rendering it more rigid.

Upon the completion of gestation in such a uterus, the rigid, undilated cervix, pressed upon by the head and bruised against the pelvic bones, becomes œdematous, thick, and finally, under increasing uterine contraction, gives way.

Displacements of the uterus, in which, as parturition begins, the power of the expelling forces is directed against a segment of the cervix rather than against the centre of the ex-

ternal orifice. In such cases the segment stretches like a hood over the advancing head, and the laceration is likely to begin within and tear outwards. In ante-displacements, the anterior lip becomes the obstacle and receives the injury. In retro-displacements, the posterior. A relatively small pelvis, rendering it difficult for the head to engage at the superior strait, increases the frequency of laceration by the portions of the cervix being caught between the head and pelvic walls and bruised during the uterine contractions.

Causes arising from the child are, faulty presentations, relatively large head and body, and over-secretion of the liquor amnii—hydramnios.

In the latter condition the uterus is so distended that its muscular contractions are greatly enfeebled. The long-continued efforts engender an œdematous condition of the cervix, rendering it less distensible and more likely to rupture when the head is finally forced into it. The efforts of the physician to hasten the labor by premature rupture of the membranes, thus substituting the hard, unyielding head for the hydrostatic pressure of the membranes for the completion of the first stage is a frequent cause.

The frequent passage of the finger about the os, and pulling upon it during pains, frequently fissures the mucous membrane, affording a starting point for extensive tearing as the head passes.

The application of the forceps before the os is fully dilated, and thus dilating it rapidly, is a frequent cause. We sometimes see the os fissured in a number of directions, forming what is called stellate laceration. All these fissures are not usually the result of one labor but several.

Uni- or bilateral laceration may have occurred in the first labor, and the fissures filled up with cicatricial tissue, firmer and more unyielding than the healthy tissue, hence in a subsequent labor the tearing will occur in the latter.

There are no special or pathognomic signs of laceration. The symptoms attending the lesion are those arising from the accompanying complications. Upon examination, the condition of the torn surfaces will depend somewhat upon the age of the laceration. They may be completely cicatrized over, presenting a healthy appearance, or present a mass of granulations situated upon a cartilaginous base resembling malignant degeneration. These granulations bleed very readily, so that examinations, coitus, or severe exercise, may be followed by hemorrhage.

The surfaces may be in contact or be widely separated, the angles filled with dense, hard, almost cartilaginous masses of cicatricial tissue. In such cases, the lower part of the cervix presents an expanded mushroom-like shape. The flattened lower surface rests against the posterior wall of the vagina. This separation of the lips of the cervix frequently results from eversion of the catarrhal cervical mucous membrane. This membrane becomes thickened, its glands undergoing cystic change roll out and widen the tract between the torn surfaces. The whole surface may be covered with this degenerated mucous membrane. A similar condition is seen rarely in women who have not borne children. I but recently saw a woman in consultation, who, though she had never been pregnant, presented a cervix in this state of cystic degeneration, the whole external portion being covered with cysts. That such a condition is due to eversion of the cervical mucous membrane is evident from the fact that there are no glands in the vaginal mucous membrane. In cases of subinvolution, or chronic metritis, the posterior lip may undergo complete involution, or even atrophy, while the anterior continues large or even hypertrophies and elongates. If the uterus is anteverted it may give the appearance of anteflexion, presenting as it does a distinct angle between the lip and the cervix. Where the laceration has extended through the vaginal portion of the cervix into the cellular tissue, we have more or less evidence of resulting cellulitis. If one-sided the uterus will be verted to the affected side, partly as a result of shortening of the infiltrated broad ligament, partly from the disparity of support, the organ appearing, from the separation of the torn surfaces, to rest upon a tripod. The laceration, whether uni- or bilateral, by affecting the normal leverage of the cervix, increases the possibility of ante- or retro-displacements. Besides the frequency of displacements, we usually find it complicated by sub-involution or chronic metritis. The exposed endometrium is the frequent seat of catarrh or inflammation. Where the lesion has existed for a long period, and nature has made repeated efforts at its repair,

the proliferated epithelial cells are liable to be the origin of malignant change. The frequency of epithelioma in the cervix, and its more frequent occurrence in those who have borne children, leads us to feel justified in ascribing to this lesion an important *rôle* in its etiology. Indeed, it is sometimes difficult to determine between the early stages of epithelioma and laceration of the cervix, where the torn surfaces are covered with exuberant granulations which bleed readily upon the slightest touch.

The tears through the anterior and posterior lips do not separate so widely as the lateral, hence are more likely to unite. Partial union of the former, when the vesical wall is also torn, may result in vesico-uterine or vesico-utero vaginal fistulæ.

I would not wish to be included among those who are ready to operate upon every fissure of the cervix, however slight. Indeed, when the tear is slight, the surfaces are cicatrized, or show a disposition to do so under treatment, when eversion and cystic degeneration are absent an operation is unjustifiable. Murphy, considering the infrequency of pregnancy subsequent to operations upon the cervix, concluded that the operation was a cause of sterility. But while I am convinced that the repair of the lesion in cases proper for operation will facilitate conception, it cannot be denied that the unnecessary performance of this operation has engendered such a fear of its recurrence as to lead women to adopt means for the prevention of conception. In the patient before you, the lesion, as you see, is situated upon the right side, and has extended through the vaginal cervix into the corresponding lateral fornix. We proceed to freshen the surfaces after having secured the cervix by a loop of thread passed through the anterior and posterior lips. As there has been some cellular inflammation here, we are careful not to make much traction. The surfaces are denuded with the knife for the reason that we can govern its action more accurately. To be ambidextrous is a great advantage in denuding the posterior lips. The surfaces are brought together with interrupted sutures, which may consist of silk, cat, or silk gut or silver wire. I now use the silk gut and prefer it to any other. The sutures are secured by shot. All the sutures, excepting the one at the upper angle, will be cut close to the shot; the latter will be kept long and another shot clamped upon the ends. It affords considerable advantage in removing the sutures, for by dragging upon it the whole line of sutures is exposed. The patient will be kept in bed two weeks, the sutures removed on the tenth day, though their longer retention would work no injury. The patient will, if possible, void her urine, as the use of the catheter, unless great care is practiced, may engender cystitis. The bowels having been thoroughly evacuated will now be allowed to rest until the third day, when a saline laxative will be given and repeated every second day. The diet will be moderate, giving but little more than broths for a few days. No injection will be used for the first three days, as its earlier use interferes with the proper gluing of the surfaces together with plasma.

Ventral Abscess.—The patient now before you entered the house a few days ago. She had been confined a month before admission, but, owing doubtless to her surroundings and want of proper attention, her convalescence has been retarded by an abscess in the left inguinal region. The patient is, as you see, weak, pale, and emaciated. She has elevated temperature, and rapid pulse. Appetite is very poor. In the left inguinal region is a marked swelling which extends upon the lower part of the abdomen. Is this a primary abscess of the ventrum, or has it originated in the broad ligament as a result of sepsis and subsequent cellulitis?

Introducing two fingers into the vagina, I find the broad ligament free from any infiltration, and no pelvic connection with the abscess, so we conclude that the abscess is one of the abdominal wall. This is confirmed by a digital examination of the abscess cavity after incision. The incision was made half an inch above and parallel to Poupart's ligament. The cavity was washed out with a disinfectant injection, a drainage-tube inserted, and dressed with sublimated gauze and absorbent cotton. An abscess of this kind formerly would have been poulticed, and, as a result of the heat and moisture, decomposition of the pus would soon have occurred, and the progress of granulation and recovery retarded. The dressings will be changed once or twice daily. She will be given good and nourishing food and tonics.

The subsequent progress of this patient was rapid and uninterrupted.

ORIGINAL COMMUNICATIONS.

EYE-STRAIN IN ITS RELATION TO FUNCTIONAL NERVOUS DISEASES;

WITH HINTS RELATING TO THE DETECTION AND TREATMENT OF MUSCULAR ANOMALIES IN THE ORBIT.*

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THE study of defects in the adjustment of the eye-muscles and the relationship which exists between such defects and nervous diseases, has not been generally regarded as of very great practical importance until of late. Many of our best text-books upon the eye do not deal with any such muscular defects, except in relation to strabismus. Some give directions for testing the ocular muscles, that are in direct opposition to the views which are here advanced. A few are positively misleading, chiefly on account of errors of statement concerning points where physiological optics come into play.

I may be pardoned, therefore, if I review, in a general way, a few points which have a practical bearing upon a method of examination and treatment of the visual apparatus, which is to-day exciting considerable attention among medical men, especially among those whose interest centres in the study of nervous diseases.

What I have to say here includes the discussion of the following points of inquiry:—

(1). What steps may be deemed as essential to success in the diagnosis and treatment of anomalies of the visual apparatus.

(2). Why it is that observations in this direction, when too hastily or imperfectly made, are peculiarly apt to be untrustworthy.

The limits of a single lecture will hardly suffice for me to cover more than a few of the more important points comprised under these headings. What I have to say will, therefore, be as condensed as seems to me permissible. A personal experience, derived from three years of continuous research in this field upon a class of patients afflicted exclusively with nervous derangements, and from nearly three hundred tenotomies upon the recti muscles of the orbit, justifies me, I think, in expressing positive convictions.

The views which I shall discuss in this lecture constitute the basis of a method of examination for and treatment of certain ocular defects, whose relationship to functional nervous diseases seems to me to be now established beyond dispute.

Since these views were first advanced by Dr. George T. Stevens, they have attracted no small amount of professional attention. In spite of the fact that his contributions in relation to this subject are remarkably clear and succinct, considerable misapprehension still appears to exist in the minds of the profession at large relative to the views advanced by him.

I may be pardoned, therefore, if, as an exponent of these views, I repeat in substance much that has already appeared in print. By so doing, I hope to concentrate your attention upon certain steps employed in the examination of the visual apparatus, whose order is deemed by no means unimportant, and in some of which the observer should exercise no small amount of care.

The following statements are, therefore, deemed by me as worthy of your attention:—

1. The view is held that errors of refraction (by which I mean near-sightedness, far-sightedness, or astigmatism) often modify apparent muscular anomalies, to such an extent as to render their early detection and correction imperative.

This point is of vital importance in the treatment of many patients. Clinical observation has conclusively shown that one of the most important steps in correcting what is commonly known as a "squint," or "cross-eye," is first to properly detect any existing error in refraction and to correct it. Such defects should always be sought for early, and the effect of a proper glass upon the deviation of the axes of vision from their normal position which demands relief should first be carefully noted. Many cases are observed by oculists where spherical glasses alone have corrected a marked "squint." The neglect of this important step may prove to be a serious omission, as it may lead to an error in diagnosis or treatment. Let me impress upon you the fact that each eye of every patient must be separately examined for refractive errors, and rendered as

*A lecture delivered at the New York Post-Graduate Medical School and Hospital.

nearly emmetropic as possible, before any test relating to the ocular muscular conditions can be considered as reliable. It is not enough, therefore for a neurologist to provide himself simply with a set of prisms with which to examine his patients' eyes for suspected muscular errors. Any tests so crudely made are certainly unscientific, and probably inaccurate.

2. The view is held that errors of refraction can only be positively determined after the full effects of atropine; hence the step of dilating the pupil is deemed of importance in most cases.

There are two sources of error which are possible in all opthalmoscopic examinations as a step toward the determination of refraction.

The first of these is that the observer may not be able to perfectly relax his own "accommodation" while using the instrument. Most oculists of large experience believe that they can do this with certainty,—a belief which, in my opinion, is perhaps not always well founded. The second source of error lies in the "accommodation" of the patient. This cannot always be relaxed by instructing the patient to look at an object twenty or more feet distant from the eye.

I am satisfied that mistakes in the determination of refractive errors by the ophthalmoscope are far more frequent than are generally supposed.

For the past three years I have examined the eyes of every patient intrusted to my care by the aid of test-type after the pupils have been fully dilated by atropine. I am not aware that I have ever lost a patient by the use of this drug. In my experience, intelligent persons are always willing to submit to a temporary inconvenience for the purpose of obtaining positive information respecting any point that is deemed of scientific value in relation to themselves. I have personally come to regard the ophthalmoscope as an unreliable instrument for the determination of refraction. Its use is rendered compulsory, however, in very young children, and in those who, from ignorance or feeble-mindedness, are unreliable in their reading of test-type.

It is generally accepted, furthermore, among our best oculists that astigmatism (a recognized source of nervous perplexity) is always estimated more accurately with the pupil widely dilated by atropine than with the normal pupil.

The reasons which I have already given must suffice to explain why the use of atropine constitutes a most important preliminary step to the detection and estimation of any error in the eye muscles, although many other arguments might be brought forward to prove its advisability in some subjects.

3. The view is held that no examination for suspected muscular error in the orbit should be regarded as conclusive for diagnosis, or as a basis for any surgical procedure until the eye has been proven to be free from refractive error, or rendered as nearly emmetropic as possible by properly selected glasses.

It is, of course, advisable during the first interview with each patient to note and record any "manifest" defect in sight. If such exists, each eye should be provided with the glass which gives the best vision for each eye (the two eyes being always tested independently of each other). After such correction, the different tests employed to detect muscular anomalies should then be made, and the results of each test should be recorded as the "manifest muscular error."

At the second interview, with the pupils fully dilated by atropine, the same steps should be repeated. We thus learn, in many cases, the existence of refractive conditions which the first interview did not reveal. We record such as "latent" refractive conditions. By the aid of suitable glasses any latent refractive error found is then to be corrected; subsequently the muscular movements are to be tested with each eye temporarily adjusted to distant vision by suitable glasses.

4. The view is held that all tests employed to detect muscular anomalies must be made with the test object (preferably a candle flame) at a distance of at least twenty feet from the eye. In this respect the method of conducting examinations advocated here is somewhat at variance with that commonly described in most text-books.

In the practical office work of many oculists the so-called "line and dot" test is generally employed (at a distance of fourteen inches from the eye).

It is generally advisable to employ this test in addition to the "candle flame" test at twenty feet; but, when it is employed, the results obtained by each test should be separately recorded. The words "in accommodation" have been suggested by Dr. Stevens as a suffix to designate the results obtained when the test-

object is placed at fourteen inches from the eye.

While it is deemed desirable in most instances to record the results of both tests described above, all operative procedures are invariably based upon the results obtained by placing the test-object at a distance of twenty feet from the eye.

To a lack of uniformity in the tests made by oculists to detect muscular anomalies in the orbit, many of the discrepancies frequently met with between the observations made by different men upon the same patient, are unquestionably due. For example, a patient may exhibit an insufficiency of the externi at twenty feet, and of the interni at fourteen inches, in spite of the fact that all precautions have been taken to previously rectify existing refractive errors. This field is too large to discuss here, but it is a very important one.*

5. The view is held that observations made for muscular anomalies, when the test-object is within the limits of accommodation, are not usually reliable as a basis for operative procedure for the relief of such anomalies.

Experience goes to show, that deviations of the visual axes observed when the test-object is placed at twenty feet from the eye, more correctly represent the muscular error which needs correction in any given case than when made at a nearer point.

I have encountered several interesting cases where extremely satisfactory results upon functional nervous phenomena of a distressing type have followed an operative procedure upon the eye-muscles, which would have been strongly contra-indicated if I had attached as much importance to the results of tests made with the test-object at fourteen inches from the eye as the statements found in most of the text-books would justify. These cases impressed me very strongly at the time. They bear the strongest testimony in favor of the view that convergence of the eyes is a factor which should be eliminated as far as possible in searching for muscular anomalies of the orbit.

6. The view is held that muscular anomalies in the orbit may be partially or totally "latent."

The amount of muscular error detected in any given case, does not necessarily indicate the full amount of error that actually exists.

The results of ordinary tests simply tell us how much eye-tension exists which the patient cannot overcome by any effort of which he is capable.

Upon this one point too great stress cannot be laid, as it sheds much light upon the clinical history of many patients who suffer from eye-strain. All authorities recognize the fact to-day that a patient may have a very marked congenital shallowness of the eye, and apparently have normal vision, or possibly appear to be even near-sighted, prior to the use of atropine. Subsequently to its use, the same patient will, however, show a high degree of far-sightedness (hypermetropia), because the ciliary muscle (temporarily paralyzed by the atropine) cannot overcome, or (to speak more technically) compensate for the abnormal shallowness of the eye.

Unfortunately for science, we have as yet no drug which aids us in determining the existence of a "latent" muscular error in the orbit.

Yet are we justified in concluding that latent muscular anomalies do not exist? Most assuredly not. There is the strongest clinical evidence to the contrary.

Only a few weeks ago, I examined the eyes of a prominent physician on three consecutive days, and I was unable to detect (either before or after prismatic exercise of his eye-muscles) any change in his ocular condition from the one noted at the first examination. His symptoms, however, led me to believe that a greater muscular error existed than he showed, although the anomaly detected was a very marked and important one.

I therefore instructed him to wear a prism, which fully corrected the error then detected, until the next examination. Less than two hours later, I accidentally had the opportunity of again examining his eyes. His muscular error was then exactly double what it originally appeared to be. He was again given a full prismatic correction for the defect detected. Twenty-four hours later he was examined for the fifth time, and he still showed an excess of two degrees over the record of the day previous. He was again given a full prismatic correction; but from that time he failed to exhibit any further alteration in his ocular tests. The relief afforded by prisms was so instantaneous and permanent (while they were worn) as to prove conclusively that the prisms were wisely selected, and that the "latent" insufficiency, which developed after their use, more accurately represented his

* See articles by G. T. Stevens, in New York Medical Journal, December, 1886, and in Archives of Ophthalmology, June, 1887.

true condition than did the original observations made at our first interview.

I mention this case, not because it is at all unique (for many such instances have been observed) but because it illustrates admirably the existence of latent insufficiency, which happened in this case to be developed by the temporary use of correcting prisms.

In the second place, it is not at all uncommon to observe the development of latent muscular anomalies in the orbit after tenotomy has been satisfactorily and scientifically performed for the correction of a "manifest" muscular error. Sometimes, quite a long interval elapses before latent insufficiency shows itself. Again, it shows itself almost immediately.

An epileptic, upon whom I operated for eye-defect, and who has now been free from attacks for over one year and a half, in spite of the cessation of all drugs, showed me originally only one degree of esophoria. This defect would, I think have been heretofore regarded by most oculists as hardly worthy of correction—even by a prism. The subsequent treatment of this case demanded repeated tenotomies upon both of the interni; and proved not only that I had a high degree of "latent" trouble to correct (which a one degree prism would not have helped) but also that the attacks have thus far been totally arrested by the relief of abnormal eye-tension.

In the third place, it has been proven that systematic daily exercises of the various eye-muscles (accomplished by teaching the patient to fuse images which have been rendered momentarily double by a prism held before the eyes) will in some cases develop latent muscular anomalies of the orbit.

In other words, a patient, after a week's muscular drill, will often show a greater flexibility of the eye-muscles and the existence of a lack of equilibrium in the eye-movements, which they did not exhibit at the earlier examinations. I am aware, that an injudicious use of such prismatic tests in the hands of a novice might cause "asthenopia," and seriously affect muscular conditions; but this fact can hardly be used, I think, by fair-minded critics, to explain the phenomena alluded to here.

Finally, it may be stated in this connection, that one examination of the various eye-movements is not, as a rule, sufficient for a positive diagnosis respecting muscular anomalies. Repeated tests have often to be made before a complicated problem may be satisfactorily solved, even by an expert in this line of examination.

7. The view is held that prismatic glasses are not only inadequate as satisfactory remedial agents in most cases, but that they may be positively injurious to certain classes of patients.

Few, if any, of our prominent oculists have perhaps ordered as many prismatic glasses as has the chief advocate of the method now under discussion. Yet, in spite of this fact, strict limitations upon their field of usefulness (not generally taught) seem to be rendered probable by late investigations.

A careful study of the different movements of the eye-ball, and of the combination of muscles required to produce some of them, must impress even the most casual reader with the idea that an agent (such, for example, as a strong prism) which tends to restrict the movements of any one muscle, may do harm if persistently worn.

Some patients are peculiarly susceptible to such influences. I have encountered a large number of patients whose eyes refused to tolerate a prismatic glass. Their symptoms were at once made worse whenever they attempted to correct an existing muscular anomaly by wearing a prismatic glass.

On the other hand, many patients are benefited at once by the use of prisms, and suffer no inconvenience of any kind from them.

What are we to infer from this statement? Are we to surmise that the prisms were either injudiciously selected or improperly placed, simply because the patient could not tolerate them? I think not! Such might possibly be the case in the hands of a novice, but presumably it is not the case in the experience of one skilled in eye-examinations.

My own experience in several such instances has shown me that a tenotomy of the muscle exhibiting the greatest tension has been followed by a complete cessation of the nervous symptoms for which the patient sought relief, in spite of the fact that prisms prescribed to correct the same error have proved intolerable to the patient, and have markedly aggravated the symptoms.

There is, however, a practical and important field for prismatic glasses. It is well to keep as a part of a physician's office equipment, a large number of prisms of different angles. These can be slipped into a frame with the base

inward, outward, upward, or downward, as the exigencies of any case seem to demand. They may be loaned from time to time to patients, for the purpose either of verifying a diagnosis or of developing a latent muscular error which the physician may be led (by repeated examinations of the patient) to suspect. When they are well-tolerated, the physician may often learn a great deal by their protracted influence. When they are not well borne, it is advisable, as a rule, to discontinue their use at once.

It is often wise to prescribe prismatic glass, also, for a class of patients who are unable (for one reason or another) to submit at the time to tenotomy.

Sooner or later, I find that such patients usually return. As a rule, they do so for one of the following reasons: (1) Because they have developed an additional "latent" muscular error, which the prisms naturally failed to correct; (2) because they do not tolerate them well, and are made decidedly worse by their use; (3) because they prefer a tenotomy to the inconvenience of a glass which has to be constantly worn; and (4) because they suffer from eye-fatigue, on account of the disturbance to coördinate movements of the eyeball.

There is no doubt that very many cases of nervous diseases are materially helped (if not radically cured) by the aid of prismatic glasses; but the question naturally arises to my mind in this connection, "Would they not have been more rapidly benefited and permanently relieved with far less inconvenience to the patient by tenotomy?"

8. The view is held that tenotomy is the only way of permanently relieving abnormal tension of a muscle in the orbit.

There are only two ways of overcoming an abnormal tendency of the visual axes to deviate from parallelism whenever the eyes are directed upon an object more than twenty feet off. One of these is by the aid of a prism; the other is by tenotomy of the muscle which directly aids in producing and perpetuating the deviating tendency.

Whenever prisms are prescribed, they afford relief practically in the same way as a "rubber. muscle" does in orthopedic surgery; in other words, they compel the muscle which is opposed to the base of the prism worn by the patient to overcome the antagonistic muscle, and also to so adjust the eye as to compensate for the refractive effect of the prism. They practically act, therefore, as a "pulley-weight"—a mechanical device seen in all gymnasiums.

Now, if the wearing of prisms had no deleterious action upon those particular muscles, which, in each case, are not at all at fault, and if they invariably exerted only beneficial effects, this principle of treatment could be more generally applied with benefit. Even then, the existence of "latent" insufficiency might, unfortunately, remain unrecognized for a greater or less period of time, possibly to the serious detriment of the patient. On the other hand, if it be satisfactorily demonstrated that tenotomy has been rendered a safe and accurate method of correcting muscular anomalies in the orbit, a fact has certainly been noted that opens a new and shorter route to relief. Such a step enables us, moreover, to decide the question of "latent" muscular defects in any given case.

9. The view is held that the difficulties previously experienced in attempting to correct so-called "muscular insufficiencies" in the orbit by a surgical procedure upon the stronger muscles have now been satisfactorily overcome.

Space will not permit of a discussion here of the demerits of operations previously devised for this purpose. Suffice it to say that the operation first suggested and performed by my friend, Dr. G. T. Stevens, preserves the normal line of traction of the muscle.

This is a point of vital importance to the patient, and one which cannot be claimed, in my opinion, for any other operation previously devised for this purpose with which I am familiar.

Any disturbance in the proper adjustment of the eye-muscles, which must ensue from an alteration in the line of traction of any one or more of the six muscles which move the eye, cannot help but be a serious matter.

The full details of the operation alluded to have already been published. I quote the following sentences from an article lately read before the Neurological Society of New York, by the chief advocate of this method:—

"In the main it consists of making a small opening through the conjunctiva, exactly over the insertion of the tendon, when the tendon is seized by extremely fine forceps, and divided in each direction, preserving the extreme outer fibres, or, at least, the reflection of the capsule of Tenon, which serves as an auxiliary attachment."

It may be stated in this connection that this operation is absolutely painless when done under the influence of cocaine; that stitches are never employed; that no subsequent dressings are rendered necessary; and that patients frequently go from the operating chair directly to their business. A slight amount of redness and irritation about the wound, and occasionally some sub-conjunctival hemorrhage (both of which tend to rapidly disappear) are all the inconveniences which this operation commonly entails. I have personally performed this operation about three hundred times up to the present date, and I have never known suppuration to occur, or any complications to be induced which caused me serious perplexity.

10. The view is held that "eye-strain" from any cause (be it refractive or muscular) is a serious matter, and that its tendency is to predispose to nervous derangements and to perpetuate them when once developed so long as this factor exists.

This is one of the most important, if not the chief claim made.

It is substantiated by many carefully made and collected observations.

No one can deny that people frequently live for long periods of time in houses impregnated with sewer-gas and in the most malarial regions without apparently suffering in consequence. Yet no intelligent man would attempt to prove to-day that sewer-gas poisoning or malarial infection were delusions simply because some people had escaped their influence. The arment that because some cross-eyed people have escaped epilepsy, chorea, insanity, and functional neuroses of the milder types, it is erroneous to claim that eye-strain has anything to do with these conditions, is absurd upon its face. The hint might, perhaps, be pertinently dropped in this connection that cross-eyed people practically suffer but little from their muscular error, simply because they have habitual double vision, which no effort on their part can correct. These subjects learn very quickly to practically discard one image (the one seen by the crossed-eye) and to use one eye only for ordinary vision. In other words, they never try to blend the images of the two eyes, except in certain attitudes of the head which result in a single visual image, without an effort on the part of the patient.

It is only in those cases, where (in spite of a muscular error) the images of the two eyes can be blended by a great effort that the patient begins to experience the deleterious physical influences of abnormal muscular tension in the orbit.

It is not hard to understand why it is that an animal too heavily laden is unable to rise after a fall has occurred until the load is taken from it.

So it is with many nervous patients. The incessant efforts made to fuse the images perceived by the two eyes into a single image (when a muscular defect renders such an act one of extreme difficulty) are liable sooner or later to exhaust the nervous force of the patient and to excite some form of functional nervous distubance.

This is the line of argument, which apparently seems difficult to understand. It is a train of reasoning which many enthusiastic pathologists naturally prefer to discard, because it puts an end to a search for a pathognomonic lesion which no human eye (even with the aid of a microscope) has ever yet been able to detect in many hopeless and chronic cases of chorea, epilepsy, insanity, neuralgia, headache, hysteria, and neurasthenia. It is a view which will probably be opposed by some, because it comes into direct antagonism with the prolonged administration of the various bromide salts; in spite of the fact that the injurious effects of such administration are too frequently encountered to be ignored. It is a principle relating to functional neuroses which is naturally combated on general grounds, because it is new, and opposed to preëxisting views.

Respecting the views here advanced, I take the liberty of quoting a few selected paragraphs from a singularly lucid paper lately read by the pioneer in this field before the Neurological Society of New York.* I do so because they appear even yet to be misunderstood by some who listened to the paper quoted from. The author of that paper says:—

"A doctrine so much at variance with ordinary beliefs, must of necessity excite suspicion that the proposition has been based upon insufficient data, or that observations have been imperfectly made. That neither of these suspicions is correct, it is hoped may be shown to the satisfaction of reasonable inquirers. If the proposition appears extreme, and tending at best to the recognition of a single class of causes to the exclusion of others, let me recall the fact

* New York Medical Journal, April 16, 1887.

that the proposition fully recognizes any and all causes of nervous irritation, and that the influences indicated are held to be preëminent, but not exclusive permanent causes. If greater importance is conceded to the influences mentioned in the proposition than to others, it is from no unmindfulness of the possibility of other conditions acting as irritating influences, or that certain known or unknown influences may give character to the results of irritation arising from the causes mentioned. Let it be remembered that it has been universally conceded that the nature of the neuropathic tendency is unknown. If one preëminently important element is demonstrated, it is not to be rejected because it may not include the whole.

"In the explanation of the etiology and treatment of disease, neither settled theories nor novel doctrines are to be accepted only as they are confirmed by undoubted facts. Nor can isolated facts, nor facts divested of their natural environments, be accepted as valid evidence in support of theories, old or new. The facts must be uniform, occurring so regularly as sequences as to demonstrate that they are consequences. Unless the skilled observer is able to predict, with a reasonable degree of accuracy, the result of certain combinations of circumstances, such result, when occurring, must be considered accidental."

"The principle of ocular irritation is of wide application, and is not to be compared with the occasional irritation set up by such accidental and usually secondary causes as phymosis is, the presence of calculus, the existence of a stricture of a passage, the effects of decayed teeth, and of many other peripheral irritations which might be mentioned. All these are of importance and are not to be overlooked.

"The conditions to which I have especially called attention are, however, in general, commensurate with the life of the patient, and exist in a vastly greater number of instances than either or all of the conditions belonging to the other class just mentioned. Not only are those painful or irregular conditions, usually described as neuroses, in great proportion responsive to the relief from ocular tensions, but a great variety of conditions, commonly regarded as local affections, yield as readily, and prove that they are in fact reflex phenomena.

"If it be said that the origin and prevention of nervous diseases is to be found in a great variety of circumstances, I reply, let us find them all, and adapt our measures to them all, but let us not neglect this because there may be others.

"For myself, I do not think that another as important class of causes of nervous disturbance will be found as that which attends the anomalies of the parts engaged in the performance of the visual function. In any case, our aim is to prevent the evils of nervous derangement by the early removal of any known mischievous tendency, and our duty is, when such nervous derangement actually occurs, to remove every perplexing cause. In the observance of such a principle, we may leave to superstition and to ignorance, the practice of expelling nervous diseases by means either fashionable or obsolete."

THEORY ON WHICH IS FOUNDED THE ELECTRO-VAPOR BATH AND MASSAGE TREATMENT.

BY F. E. STEWART, M.D.

THE three agents employed in the electro-vapor bath and massage treatment are heat, electricity, and mechanical motion. The theory underlying their use as therapeutic agents is the following:—

Theory in Regard to Heat.—First. In regard to heat. Heat is now regarded as a mode of motion, in other words, molecular motion. By the law of the conservation and correlation of energy, one form of force may be converted into another. Vital energy is now looked upon as a force closely related to heat, light, electricity, and other forms of force, and each of these forms of force are not only mutually convertible, but each form may, by appropriate methods, be transformed into vital energy. The patient is subjected to the action of heat while the electricity is applied.

"The first effect of heat is on the sensory nerves—the impression of warmth. The peripheral vessels, dilate, and, of course, admit into them a large amount of blood, with the effect to diminish the amount of blood in the internal organs. The temperature of the blood rises with the increase of heat; the action of the heat corresponds, and a state of fever would be quickly induced if the excess of heat were not at once disposed of by the perspiration, in which, according to the doctrine of the correlation of forces, it disappears as motion. The circulation being more rapid, and

the peripheral vessels containing more blood, a more active metamorphosis of tissue probably takes place. Elimination is more active through the skin, but is lesss active through the intestinal canal and kidneys. The acidity of the urine is increased, and the water and salts are relatively diminished. Remotely, the tension of the vascular system falls, absorption becomes more active, the muscular *tonus* declines, and the sensibility of the nervous system and of the special senses is lowered." *

It is only the excess of heat, then, that is transformed into motion by the perspiration. The remainder is used up in performing work. It, too, is changed into motion. But the motion in this case is molecular motion in the body itself. In other words, the heat is changed to molecular motion in the body, and manifests itself in the physiological effects already described. And these effects are but intensified actions of normal functions. The normal actions of the body are stimulated by the heat. Increased functional activity shows increased energy. By the same law, already referred to, where heat is changed to motion in the perspiration, heat is also changed to vital energy, and manifests itself by greater activity in the normal processes of life. Heat, then, by this law, is changed into vital energy, and on this principle depends its value as a therapeutic agent.

The following method of applying heat, mentioned also by Bartholow, bears out the theory which I have described. He says, "Heat . . . is a very important remedy in sudden and alarming depression of the vital powers, with feebleness of the heart's action and coldness of the surface. . . . Feeble infants, borne at term, or prematurely, are often saved by the application of heat. . . . The *methodus medendi* is simple enough. The heating of the blood in the surfaces of the body increases the movement of both heart and lungs."

Theory in Regard to Electricity.—Second. In regard to electricity. Dr. Tousley, of Philadelphia, claims that all growth is due to electricity, and it is by the action of electricity upon the nutrition of the body that its therapeutic value depends. This is expressing in common terms a scientific fact. All growth is due to vital energy, and there is good reason to believe that electricity may be changed into vital energy. My reasons for believing this are—

1st. Under the law of the correlation of forces, energy "may appear, according to circumstances, as motion (heat), chemical affinity, cohesion, electricity, light, magnetism; and from any one of these forms it can be transformed into any of the other."—Fr. Mohr.

To illustrate this law, let us consider what happens when plants are made to grow in the electric light, and animals eat these plants and derive their energy from them. It is a well known fact that plants draw their life directly from the sun through the agency of the chemical decomposition that occurs in the green leaves. "The plastic matters, of which vegetable structure is built, are of two kinds—amyloids and albuminoids. The amyloids, or starch and sugar groups, consist of carbon, hydrogen, and oxygen; the albuminoids of carbon, hydrogen, and nitrogen, with a little sulphur and phosphorus. . . . The food out of which these substances are elaborated are, carbonic acid, water, and ammonia. Now, by the agency of sunlight, in the presence of chlorrphyl and bioplasm, these chemical compounds ($C O_2$, $H_2 O$, $H_3 N$) are torn asunder, or shaken asunder or decomposed; the excess of oxygen, or of oxygen and hydrogen is rejected, and the remaining elements in a nascent condition, combine to form organic matter. . . . It would seem in this case, therefore, that physical force (light) is changed into nascent chemical force, and this nascent chemical force, under the peculiar conditions present, forms organic matter, and reappears as vital force.

The animal derives his vital force from the vegetable kingdom, directly through vegetable food, or indirectly through animal food. Food is used in the animal body, first, to repair tissues consumed by their functional activity, and, second, the excess of food is burned up, like coal in the engine, to produce the vital energy that moves the body.

But vegetables will grow and thrive in the electric light as well as in the sunlight. "Not long since quite an excitement was created over the experiments of Dr. Siemens in growing plants with the illumination of the electric light."—*London Daily News.* "He proceeded in his experiments with the idea that electricity might furnish all the requisites of

* Bartholow, "Materia Medica, Therapeutics—Physiological Effect of Heat."

sunlight in the development of plant growth. More than ten years before this time, experiment had been made with the electric light in this direction, and it was found that this light, applied to plants in badly-lighted places, resulted in a growth equal to that when plants had the benefit of sunlight. Dr. Siemens made a sunlight of his own by placing an electric light of 1400-candle-power in the midst of his plants, and at a distance of about six feet. He found it equal to average daylight at the season of the year in which he was experimenting."

"He found the results the same, so far as plant-development was concerned, as though the plants were under the direct influence of daylight. He found more than this, the growth of vegetation was greatly accelerated. The electric light was found competent to produce all the mechanical effects of daylight, such as bringing about the reërection of foliage plants that 'sleep at night, and that seedlings of mustard which had never seen daylight, were quite as green and vigorous.'

"Dr. Siemens exhibited to an audience before whom he lectured, a pot of tulips in bud, which the electric light brought into full bloom in some three-quarters of an hour."

Now, let us trace what happened when plants were made to grow in the electric light. Before it could be done sunlight was changed into nascent chemical energy, then into vegetable life force in the green leaves of the plants which afterward became coal that furnished fuel for the engine that ran the dynamo to supply the electric light. Vegetable life force locked up in the coal was changed to motion when the coal was burned in the furnace. The molecular motion of the gases resulting from the combustion was changed into mass motion in moving the engine and dynamo. Mass motion was changed into electricity in the dynamo. Electricity was changed into light in the electric lamp. Light was changed into nascent chemical energy, then into vegetable life force in the green leaves of the plants subjected to the action of the electric light. And when these plants were used for food by animals, the vegetable life force was changed to animal life force.

Amid all these protean changes the same amount of force persisted. All the energy stored in the coal thousands of years ago appeared again in the various changes that occurred. Tyndall says, "I have here a bundle of cotton, which I ignite; it burns, and yields a definite amount of heat; precisely that amount of heat was abstracted from the sun in order to form that bit of cotton. This persistence of the same amount of force in all these protean forms is called conservation of force, or, more properly, of energy. And the mutual convertibility of these various forms into one another is known as the correlation of forces."

This law of the conservation and correlation of forces you are all familiar with. This law was definitely set forth just half a century ago (1837), by Dr. Mohr, in these words: "Besides the . . . chemical elements, there is, in the physical world, one agent only, and this is called energy. It may appear, according to circumstances, as motion (heat), chemical affinity, cohesion, electricity, light, and magnetism; and from any of these forms it can be transformed into any of the others." And the fact that vital force is but a form of this energy, and is derived from the sun, is clearly stated by Tyndall. "Every tree, plant, and flower grows and flourishes by the grace and bounty of the sun. But we cannot stop at vegetable life, for this is the source of all animal life. In the animal body vegetable substances are brought again into contact with their beloved oxygen, and they burn within us as a fire burns in a grate. This is the source of all animal power, . . . all terrestrial power is drawn from the sun."

Since, then, electricity and vital energy are but forms of the same energy and mutually convertible, it follows that if we can convert electricity into vital energy by passing it through the body of a patient, we have in our hands a valuable therapeutic agent. The question then, is, can we do so?

We have already seen in the experiments of Siemens that electricity can be changed into vegetable life-force indirectly through the medium of the electric light. But discovery has gone farther than that. Electricity has been changed directly into vegetable life-force by passing a current from a battery through living plants and through the earth containing them, and scientific men deem it possible that the growth of plants may be so stimulated in this way that vegetables may be raised for the table in a few days at any season of the year by the method of forcing. And what is true regarding the effect of electricity on plants is certainly true in a measure of its effect on animals.

It has been often observed by electricians that the growth of the body is stimulated by the continued application of electricity. This is specially true in cases of retarded development, where a growth of several inches has been observed in a few months. This was very manifest in a case under my charge last winter, in which growth was greatly stimulated in the body of a little, undeveloped boy. No truly scientific man would for a moment maintain that growth can be conducted by electricity in an unchanged condition. Growth in animals and vegetables is always due to vitality. No amount of electricity would make a dead body grow. I infer from these facts, that it is possible to change electricity into vital energy by passing the electric current from a battery through the living bodies of both animals and vegetables.

What is the action of electricity on the matter of which the body is composed, is, of course, a conjecture. Helmholtz, Sir William Thompson, Clerk Maxwell, and others, believe that matter owes the form in which we know it to electricity, and some believe that matter itself is but another modification of energy. The theory believed by the scientists just named, is known as the vortex-ring theory. By it matter is composed of vortex-rings of a peculiar kind of ether, pervading all space. These rings are set in motion and kept in motion by streams of electricity passing through them. The "vortex-rings" are known to the chemists as atoms, and are associated together in groups called molecules, and it is the molecules which make up the mass of the body. The atoms are continually in motion, and the molecules are continually vibrating rapidly back and forth with a pendulum-like motion. All of this motion is kept going by energy in some form.

The vortex-ring theory is explained in the following manner:—

"I imagine a ring of India-rubber, made by joining together a cylindrical piece (like a lead-pencil before it is cut), to be put upon a round stick which it will just fit with a little stretching. Let the stick be now pulled through the ring, while the latter is kept in its place by being pulled the other way on the outside. The India-rubber has thus what is known as the vortex-motion. Before the ends were joined together, while it was straight, it might have been made to turn round without changing its position by rolling it between the hands. Just the same motion of rotation it has on the stick, only that the ends are now joined together. All the inside surface of the ring is going one way, namely, the way the stick is pulled, and all the outside is going the other way. Such a vortex is made by the smoker who purses up his lips and sends out a puff of smoke. The outside of the ring is kept back by the friction of the lips while the inside is going forwards, thus a rotation is set up all around the smoke-ring as it travels into the air. If we half immerse a teaspoon in our tea and draw it across the surface, we may see two little eddies formed at the edge of the spoon. These eddies are really united by a sort of a rope of fluid underneath the surface, which follows the shape of the spoon, and which has throughout the same motion or rotation that the India-rubber ring had when the stick was drawn through it, except in this case only half a ring is formed, being cut off, as it were, by the surface of the liquid.

"The experimental discoveries, and the geometric insight of Faraday, and the application to these of mathematical analysis by Thompson, and, above all others, by Clerk Maxwell, have shown that ether, which was required for the theory of light, is capable also of explaining magnetic and electric phenomena. Whatever that motion is which is periodically reversed in a ray of light, we have very strong evidence to show that the same motion is continuous along an electric current. This stream makes vortex-motion all round it, as if it were a stick drawn through India-rubber rings."

Electricity is always generated by chemical decomposition. An immense amount of chemical decomposition is going on in the body continuously. What becomes of it? Part is changed into heat, and radiated from the body, but is it not reasonable to suppose that part is transformed into vital energy? May not the way by which this is accomplished be explained by the vortex-ring theory? The electric current caused by chemical decomposition in the body passing through the vortex-rings (atoms) of which the body is composed. In this way it is changed to vital energy. And may not the same thing occur when the electric current is passed through the body from a battery?

Theory in Regard to Massage.—Finally, with regard to the theory concerning the effect of massage as a therapeutic measure, all that I have said in regard to electricity will, in great

measure, apply to massage. It, too, is a form of energy. It, too, can be transformed into vital energy. And in this opinion we are supported by the eminent Dr. Benjamin Lee. In a little tract of his on massage, translated from the German of Reibmayer, with notes by the translator, when speaking of the principle underlying this form of treatment, says:—

"The conclusion arrived at by Count Rumford as the result of one of his brilliant experiments on the production of heat without fire; that anything which any insulated body or system of bodies can continue to furnish without limitation cannot possibly be a material substance," and that it appeared to him "extremely difficult, if not quite impossible, to form any distinct idea of anything capable of being excited and communicated in these experiments except it be motion," was the germinal idea from which sprang the whole outgrowth of the modern theory of force, as worked out by such thinkers as Faraday, Grove, Joule, Thompson, Tyndall, and Mayer, as we find it elucidated, for instance, in Tyndall's heat as a mode of motion, and Grove's correlation of the physical forces. The latter writer demonstrates that not only heat but sound, light, and electricity are modes of motion, produced by motion, and convertible into motion. "The same argument," he further says, "which have been submitted to the reader as to the other affections of matter being modes of molecular motion are equally applicable to magnetism." And, again, "The nearest approach that we can form to a comprehension of chemical action, is by regarding it as a molecular attraction or motion." That eminent Christian philosopher and physician, Prof. William B. Carpenter, in his essay on the "Correlation of the Physical and Vital Forces," goes a step further, "aiming to show that the general doctrine of the correlation of the physical forces propounded by Mr. Grove, is equally applicable to those vital forces which must be assumed as the moving powers in the production of purely vital phenomena." "Now," says Dr. Lee, "since heat, electricity, and chemical action are inseparably associated with the beginnings of life as well as its maintenance, it is not too much to regard them as, in the hands of the Creator, the means of its source and origin. And, as all of these exhibitions of Divine power can be traced back to motion as their ultimate cause, or their essential condition, it follows that we must look upon motion as the source and conservator not only of force, but also of life."

"If now, changing our point of view, we look at the processes of animal life from within, we find, as the latest development of physiological research, the animal cell, with the incessant motion of its contents within and through its walls, by constant endosmosis and exosmosis, as the unit and exponent of life, both in its origin and its perpetuation. Irregularity or retardation of motion in the cell contents constitutes disease. Cessation of this motion is death. We may, therefore, not inappropriately define a state of health to be one in which the motions of the cell contents are normally carried on. This condition being disturbed, what can be at the same time more natural and more scientific than to introduce motion from external sources to regulate and restore it." "This," says Dr. Lee, "is the function of massage."

To sum up, therefore, heat, electricity, and mechanical motion, are forms of force, and are convertible into vital force. Used in combination, in the forms of the electro-vapor bath and massage, these agents become a powerful remedial measure in the treatment of a wide range of diseases, either used alone or as an aid to the action of drugs.

WILMINGTON, DEL.

NOTES ON DIPHTHERIA.

BY JAMES S. HILL, M.D.,
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IN the consideration of a disease that has spread its baneful effects from one point of the compass to the other, and has received the attention of the greatest minds in the profession from the earliest times, it is imperative, it seems to me, that instead of entering into a discussion of its theories, it would be much better for all concerned, if we viewed it in its practical aspects. It is true that some of its theoretical points will come under notice, but we will endeavor to keep in view the practical as much as possible. There are none, I am sure, will doubt that it is a contagious disease, whatever may be the difference of opinion in regard to other points in its etiology.

Is it a constitutional disease? I am of the opinion that systemic infection primarily, with secondary throat lesion, is its true definition. I am aware that many advocate an opposite

view, viz: primary throat lesion and secondary systemic infection, but it seems to me that the evidence is certainly against it. If it is a primary lesion of the throat, the proper course in its treatment would be to remove or destroy the exudate at once, at the very commencement of the disease, and so end it, but this procedure has been found to be futile, for just as soon as the membrane is removed another quickly forms in its place. One of my patients during the late epidemic became sadly aware of this fact. Before I was called to see her she had removed the membrane a number of times, and it had spread so fast that she sent for me to know the reason why. She said to me, "Doctor, in three hours after it is removed, it is much larger than it was before."

Again, we are all aware that wherever there is a mucous surface or an abrasion, this same membrane will form. A friend of mine informs me that a number of years ago he had under his care a lady who had been in charge of a child suffering from diphtheria, she was unaware at the time that she had an abrasion on her arm; one day she complained to the doctor of feeling unwell, and of a severe headache, he naturally examined her throat, but found nothing abnormal, although at this time she had considerable elevation of temperature. The next day she informed him that she had a sore on her arm, and, on his examining it, found the characteristic diphtheritic membrane. The exudation from the child's mouth had come in contact with this abrasion, and had produced, as the late Professor Austin Flint truly called it, diphtheritic fever.

Can it be possible that a local disease, or a primarily local disease, would prove so alarmingly fatal as this has? In England, in the years 1858 and 1859, about twenty thousand persons fell victims to it, and at the present time, in other as well as in our own country, the mortality is about 50 per cent. During the past five weeks I have had fourteen cases, and out of this number I have lost five, which I attribute to the unsanitary condition of the houses in which they lived.

My first case was a boy about seventeen years of age, who was working on a farm about two miles from my office. He had complained the night before of a soreness of the throat, and, as he was no better the next day, they sent for me. I examined his throat, and found it covered with the diphtheritic membrane. I informed his parents of this fact, and as he had not been away from home, and there were no other cases in town, they seemed to doubt my opinion, and with this view many of the neighbors seemed to agree, so I advised a consultation to decide the diagnosis. The consultant agreed fully with my diagnosis and treatment. He made a good recovery. A few days afterwards I was called to see a patient in another part of the town, and found a young boy suffering with the same disease, although in a milder form. I am sure these families were strangers to each other and had not been in communication. He, too, made a good recovery under the same treatment as I had adopted in the first case. In ten days his sister, a young lady nineteen years of age was taken, and had it in a more severe form, but finally recovered. In about a week afterward I was sent for in an opposite direction altogether, and found two in one family suffering in like manner. They had considerable elevation of temperature, and the tonsils and uvula were completely covered with the membrane, so that the speech was very imperfect, and one of them, a boy about eight years of age, was suffering from paralysis of his vocal organs to such an extent that it was almost impossible to understand him. During my attendance on these cases I was called in a house near by and found a child suffering from the worst form of this disease that I had seen. This case was in one of the houses that I have before spoken of being in such poor sanitary condition. His parents had no regard for cleanliness, and I was not aware at the time, until I had made an examination of the premises, that they had kept a dead horse in the woodshed on purpose to feed to a number of dogs that they kept—twelve in number. In four days the child died, and during this time they found four of the dogs dead, as I presumed from this same disease. The horse was taken away, and the rest of the dogs destroyed. The day this boy died I was called in next door, and found a house in worse sanitary condition, with the exception of the dead horse. The house was a mere shell, the floors and beams were as rotten as they possibly could be and hold together. There was no cellar, and the water had run through the floor for the last twenty years, making the place a perfect hot-bed of disease. They had four children, and three of them were suffering from diphtheria. In five days

three of them died, although I used every measure to disinfect and clean the place. The last one, a girl about three years of age, seemed worse than the rest of the children, and yet she lived the longest. There are some points in connection with her case that I wish to report. Her throat and nostrils were completely covered with the membrane. She had picked her nose and upper lip so that it was a raw, bleeding sore, and had spread far on to the left cheek. In about three days she commenced to bleed from her vagina, which continued for five days. On my examining her, I found the inside as well as the lips of the vagina, black as jet. She, however, seemed to improve, her throat and upper lip assumed a healthy aspect, and the vagina stopped bleeding and returned to its natural color. The day before she died her pulse was 70 per minute, although it had been 130. A few minutes before she died she called for a drink of milk, and before it was brought to her she was dead.

No autopsy was made, and I presumed she died from heart-failure. The families were quarantined, and everything done to prevent its spreading.

During one of my visits to this family the mother was taken in labor, and I could do nothing less than attend to her, as they could get no one to come in the house. You can judge of the state of my mind as I attended her at that time. Was I doing right, and if anything happened should I be censured for it? But I hoped almost against hope that all would be right. Three weeks have now passed, and the mother and babe are both well.

In regard to my treatment of these cases, I have adopted one course, and I desire to give it in detail, so that any criticisms that others see fit to bring forward may be of some good in the future. I gave all of my patients a saturated solution of chlorate of potassium, and in this I put two teaspoonfuls of listerine. I sprayed the throat with a weak solution of listerine and applied sulphur by an insufflator to the throat. I had the windows and doors opened, so as to give them all the fresh air possible, and had them steam the rooms. I kept up a mild counter-irritation on the outside of the throat. I gave tincture ferri chlor. with hydrochloric acid and glycerine, but not in the large doses advised by some. I had sulphur burned on coals in the room, and in one family I had them slake lime in the room. Sometimes I would use for a few days a solution of hydrarg. bichlor. $\frac{1}{2000}$, but saw no appreciable effect by so doing.

My great hope was in the solution of chlorate of potassa and sulphur. Tincture ferri chlor. has been spoken of very highly by many observers, but I have failed to see its good results. All were given stimulants from the first, some whiskey, others brandy, and one ale. If I had more cases to treat I should give the ale a more extended trial, as I am of the opinion that yeast has a good effect in destroying this membrane. I have nothing to claim for the treatment I have adopted, but bring it forward so that those who have had a larger experience in this disease, may add or take from it. I had five cases that seemed to me as severe as the five that died, and yet, under good sanitary conditions, they recovered.

THE PATHOLOGY OF INEBRIETY.

BY NORMAN KERR, M.D., F.L.S.,
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WITH a very few exceptions, inebriety has in the past been regarded as only a moral evil deserving reproof, a vice calling for censure, or a crime demanding punishment. Gradually, though surely, the truth is working its way that in a very large number of cases there is something more. There is frequently a pathological element in inebriety. The pathology of this subject is an important study; for, owing to a non-recognition of the diseased condition present in many cases of habitual drunkenness, efforts at the cure and prevention of intemperance have often failed. Once our knowledge is complete and our diagnosis accurate, we will be in a position to devise treatment adapted to accomplish a permanent cure. The study is difficult. Purely nervous disturbances, with altered states of the nervous fluid and impairment of the nutrition process, with changed conditions of the blood, may take place in the living subject without exhibiting any physical degradation of structure visible during life. Insanity of an incurable type may be existent beyond dispute, and yet we may be able to detect no organic or other lesion. How often in such cases has the curable stage been passed without an effort at remedial treatment, because the presence of no disease was suspected. Even after death, in many cases of mental un-

soundness, an examination has revealed no definite descernible lesion.

In certain cases of inebriety there is either an alteration of structure or a functional disturbance, or perhaps, in some instances, both. The evidences of structural degradation in inebriety of long standing are plain. There is a prior morbid condition, in a large proportion of cases, on which the drink desire or drink impulse depends. If this pathological basis be removed by appropriate treatment, the desire or the impulse ceases. The exact nature of this pathological state is not always easy of determination, though there is, undoubtedly, a failing reproduction of that nervous force which is essential to healthy brain life.

Every sensation has a physical antecedent or accompaniment with which it is in close relationship, the relationship being that of proximate cause and effect. Hunger and thirst are preceded or accompanied by certain bodily states, and are the expression of certain bodily requirements. In health these physical antecedent or coincident conditions are normal, in disease they are abnormal. In the former instance these are called physiological, in the latter pathological.

Except when taken for fashionable or social reasons, intoxicants are consumed either to gratify an inward desire for the pleasurable feeling following their use, or because the taker is impelled by some strong impulse from within to indulge in some narcotic (palatable or unpalatable) which will yield even momentary relief. Drinkers may therefore be classed as (1) voluntary and (2) involuntary. Moderate drinkers, so long as they keep in moderation, belong to the voluntary class. The involuntary drinkers are those from hereditary or from diseased states. Involuntary drinking is abnormal, with a pathological antecedent. The transition from moderate to immoderate drinking is often a pathological process. The pathological antecedent or concomitant may be: (1) depression, as in inebriate reaction after a debauch, often hemorrhage, etc.; (2) exaltation, as in sudden joys, or (3) some other obscure morbid state. In depression there is nervous insufficiency, in exaltation nervous superabundance. The physical antecedent or concurrent may be described as a preparoxysmal pathological antecedent.

Besides the pathology of the inebriate paroxysm there is the pathology of the inebriate diathesis. Even evanescent outbreaks are often the issue of temporarily diseased states. The majority of drinkers do not respond to the excitation to inebriety, because they possess no inebriate diathesis. In what does this diathesis consist? In a deficient brain and nerve, tonicity. All men are endowed with some amount of inhibitory power. A certain exercise of it is required of all except idiots and lunatics. The brain and higher nerve centres are the seat of this power. The vigor of inhibition is affected by the physical state of the brain and nervous system. If the brain and nerve substance is improperly or imperfectly nourished, the will-power and the power of control are heavily handicapped.

This defective inhibition may be (*a*) inherited and (*b*) acquired. Physical unsoundness and special proclivities to inebriety may also be transmitted. The susceptibility to all narcotics may be handed down, but the alcoholic is the most delicate of all. The inebriate diathesis may be (1) latent and (2) developed. Where it remains latent through life, this is because no appropriate and sufficiently powerful provocative has disclosed its existence. Defective inhibition may be acquired by the narcotic influence of alcohol, which is a remarkably effective weakener of control. Alcohol injures the brain, and is, therefore, hurtful to the intellect, thought, and moral sense. The pathological effects on the brain are often accompanied by bodily pathological conditions. Abnormal nutrition, perverted or imperfect, initiates these pathological changes, which constitute a degenerative process consisting of a long chain of morbid alterations—capillary paralysis, circulatory tumult, vascular atheroma, cellular decay, membranous thickening, cerebral congestion, and neuroglian proliferation. The depravity of the blood, the functional derangements, and the poisoned organism, engender morbid impulses and desires which crave for the delusive consolation of narcotization.

The *post-mortem* appearances which I have generally seen in the bodies of inebriates, on whom inquests had been held, have been, in acute cases, appearances of hyperæmia, this condition affecting principally the gastric vessels, the meninges, and sometimes the cerebrum. In some cases the liver, kidneys, heart, and respiratory organs were affected. In chronic cases I have found the lesions of

a more permanent character. Besides the stomach, cerebral and meningeal congestions, with patches and erosions of the gastric mucous membrane, there has mostly been visible a tortuous, atheromatous state of the vessels and hypertrophy of the connective tissue of the brain. In alcoholic progressive multiple neuritis I have seen no lesion of the spinal cord or nerve roots. All that has been apparent has been a degeneration of the peripheral nerve fibres. Sometimes there have been traces of congestion of the pia mater.

Whether the disease has been caused by the direct or indirect poisonous effects of an intoxicating narcotic, there must have been a beginning to the habit. Why, then, did such persons lapse into inebriety, while the majority of drinkers halted at moderation? Because these had, in many instances, an innate or acquired susceptibility to the intoxicating action of the narcotic used. Many, too, have, from a life of strict sobriety or even abstinence, suddenly plunged into excessive indulgence in alcohol, or other anæsthetic, on the provocation of some exciting cause. In these there is an abnormal cerebral condition, a dynamical and psychical disturbance of the brain and nerve function, a real departure from sound health, which is itself a pathological state with, in all probability, its *post-mortem* equivalent in hyperplasma of the neuroglia. At present our information is incomplete, but resolute inquirers are at work, and I look forward to the time when we shall arrive at a definite knowledge of the actual pathological conditions from which the Protean malady—inebriety—takes its origin.

THERAPEUTIC NOTES.

SALIX NIGRA AS A SEXUAL SEDATIVE.

In many women pain in the ovarian region is a constant attendant upon the menstrual epoch. In some this is due to organic disease, but in a large number it is one of the manifestations of the neurotic temperament. Such cases are met with in all degrees of severity, from a slight amount of discomfort along with indications of globus hystericus, up to hystero-epilepsy in its most pronounced forms.

It has always been a slur upon our profession that when a method of treatment becomes popular or fashionable other methods are entirely discarded. At present, massage and isolation from relatives is the popular mode of treatment, and drugs occupy a secondary place, if, indeed, they have any place at all. Pecuniary difficulties, however, stand in the way of isolation or massage ever reaching the masses, and drugs will always be in employment. Several drugs are in daily use against the ailment, but with only partial success, and it is with the view of bringing before the profession a remedy that, in my hands, has produced results which I never had before while I was employing the bromides, valerian, assafœtida, etc., that I have sent this short notice.

Salix nigra, or the pussy willow, is a tree growing from fifteen to twenty feet high. It is met with along the streams in the Southern States of America, and is credited with possessing tonic, carminative, and stimulant properties, besides being an astringent and antiperiodic. In the Transactions of the Texas State Medical Association, Dr. Payne reports many cases treated successfully with the drug. He prescribed it in cases of ovarian hyperæsthesia, uterine neuralgia, etc., and also in spermatorrhœa and nocturnal pollution. His verdict upon the drug is that it is a powerful sexual sedative, similar in its action to bromide, but without its depressing qualities.

Through Messrs. Thomas Christy & Co., of London, I obtained a supply of the fluid extract, and have been employing it for some months. The most numerous class of cases in which I exhibited the drug were women of a nervous temperament, in whom the nervous irritability reaches its height at the menstrual period, when, along with the general *malaise*, is added a very decided pain in one or other ovary. They also suffered from hemicrania, the pain being situated above the left eyebrow, and resembling the feeling as if a nail were being driven into the skull (clavus). Many of them, too, complained of a pain underneath the left breast, and extending around to the back. On one or two occasions I have noticed patients complaining of the above symptoms, and, in only a moderate degree, under favorable conditions—as, for example, long-continued anxiety or alcoholism—go from bad to worse till they became hystero-epileptics. In cases of this kind, it is supposed that the centre of inhibition has in some way got out of gear, and the severity of the symptoms depends upon the amount of disturbance in this nerve-centre.

In cases where the ovarian distress was the symptom for which advice was sought, as being in the patients' eyes the most prominent, I usually succeeded in eliciting other indications of an irritable nervous system, and placed them upon half-drachm doses of the fluid extract of salix nigra three times a day. In quite 75 per cent. of patients so treated a great amount of relief was obtained after two or three days treatment. Not only was the ovarian hyperæsthesia relieved, but the nervous palpitation of the heart was abated, and the patient felt in every way stronger.

I have also given the drug in two cases of nocturnal emissions with marked benefit. The pollution ceased entirely while the drug was being taken and for several months thereafter. Virile power and passion were not much if at all diminished, but the relief from the ailment gave them great satisfaction.—J. HUTCHISON, M.D., *Brit. Med. and Surg Journ.*

INCIPIENT PHTHISIS.

℞. Tinct. ignatiæ . . . ʒj.
Tinct. sanguinaria . . ʒss.
Ext. geranii . . . . fʒiss.
Spts. vini gallici . . . ʒivss.
M. Sig.—Two teaspoonfuls four times a day.

ANÆMIA.

℞. Tinct. stramonii . . . ʒss.
Ext. gentianæ ferrat . . ʒiij.
M. Sig.—Teaspoonful in water after meals.

DIPHTHERIA.

℞. Tinct. aconiti rad. . . . ʒss.
Tinct. benzoni comp. . . ʒj.
Elix. simp. . . . . ʒj.
M. Sig.—From twenty drops to a teaspoonful every three hours, according to age.

CAPILLARY BRONCHITIS.

℞. Tinct. aconiti rad. . . . ʒss.
Ammonii iodidi . . . ʒj.
Mist. glycirrhiza comp. . . ʒiiss.
M. Sig.—Teaspoonful every two or three hours.

CHORDEE.

℞. Ext. gelsemii . . . . fmxx.
Ext. salix nigra . . . fʒj.
Morphia sulphatis . . gr. iss.
Syr. simp. . . . . ʒij.
M. Sig.—Teaspoonful after supper and at bedtime.

NERVOUS VOMITING.

℞. Morphia sulphatis . . . gr. ij.
Creasoti . . . . miij.
Vini Portense . . . ʒiss.
M. Sig.—Teaspoonful in water half an hour before meals.

FLATULENT DYSPEPSIA.

℞. Strychnia sulphatis . . gr. ss.
Spts. myristicæ . . . ʒj.
Spts. vini gallici . . . ʒj.
M. Sig.—Teaspoonful after meals.

MALARIAL PNEUMONIA.

℞. Tinct. veratri viridi . . ʒss.
Quinia sulphatis . . . ʒj.
Syr. yerba santa . . . ʒij.
M. Sig.—Teaspoonful every three hours.

TURPENTINE EMULSION.

℞. Oil of turpentine,
White of egg . . . āā ʒij.
Glycerine,
Syrup,
Aqua . . . . āā ʒiv.

Mix the white of egg and glycerine together, add the oil of turpentine and shake thoroughly, then add the syrup, and lastly the water, shaking them well together. A teaspoonful dose will contain about eight minims of turpentine.

WHOOPING-COUGH.

℞. Ext. cannabis Indicæ . . fʒss.
Ext. belladonnæ . . . fʒss.
Vini Portense . . . ʒj.
Glycerini . . . . ʒj.
M. Sig.—Ten drops every four hours.

DYSMENORRHŒA.

℞. Tinct. aconiti rad. . . mxx.
Morphia sulphatis . . gr. j.
Ext. cimicifuga . . . fʒj.
Ext. ipecac. . . . . fmxx.
Elix. simp. . . . . ʒiss.
M. Sig.—Teaspoonful every two hours.

The following formulæ, for internal use, are abstracted from the advance sheets of "A Practical Treatise on Diseases of the Skin," by John V. Shoemaker, M.D. Appleton & Co., New York:—

ACNE.

℞. Pill of carbonate of iron . ʒss.
Extract of ignatia . . . gr. ij.
Arsenious acid . . . gr. j.
Mix and divide into twenty pills.
Sig.—One pill after meals.

ACNE.

℞. Liquid pepsin . . . ʒj.
Tincture of nux vomica . . ʒj.
Dilute hydrochloric acid . . ʒij.
Glycerine . . . . . ʒij.
Mint water . . . . . ʒj.
M. Sig.—One teaspoonful after meals.

ACNE.

℞. Bromide of sodium . . . ʒiv.
Syrup of wild cherry . . ʒiij.
M. Sig.—One teaspoonful in water every three hours.

ACNE.

℞. Sublimed sulphur . . . ʒss.
Carbonate of magnesium . ʒvj.
Mix and divide into twelve powders.
Sig.—One or two powders, in syrup, every morning and evening.

PUSTULAR ACNE.

℞. Syrup of lactate of iron . . ʒiij.
Chlorate of potassium . . ʒij.
M. Sig.—One teaspoonful four times a day.

ACNE PUNCTATA.

℞. Glycerine . . . . ʒiij.
Tincture of calamus . . ʒij.
Cinnamon water . . . ʒxiv.
M. Sig.—Two teaspoonfuls three or four times a day.

ACNE.

℞. Fluid extract of hydrastis . ʒij.
Glycerine . . . . ʒiij.
M. Sig.—One teaspoonful before meals.

ACNE.

℞. Sulphate of iron . . . gr. xv.
Extract of dandelion . . gr. xx.
Mix and divide into twenty pills.
Sig.—One pill after meals.

ACNE.

℞. Syrup of the lacto-phosphate of lime . . . . ʒiij.
Sig.—One teaspoonful in water three times a day.

ACNE.

℞. Syrup of the hypophosphites ʒv.
Aloin . . . . . gr. ij.
M. Sig.—One teaspoonful three times a day.

ALOPECIA.

℞. Sulphurous acid . . . ʒij.
Syrup of orange flowers . . ʒij.
M. Sig.—One to two teaspoonfuls in water three times a day.

ALOPECIA.

℞. Tincture of ignatia . . . ʒij.
Solution of arsenite of potassium ʒij.
M. Sig.—Five to ten drops in water two or three times a day.

SYPHILITIC ALOPECIA.

℞. Corrosive sublimate . . gr. j.
Glycerine . . . . ʒiij.
M. Sig.—One teaspoonful four times a day.

ALOPECIA.

℞. Tincture of jaborandi . . ʒss.
Sig.—Five to thirty drops in water four times a day.

ANIDROSIS.

A decreased or complete cessation of the secretion of sweat:—

℞. Infusion of jaborandi . . ʒiij.
Spirits of nitrous ether . . ʒiij.
M. Sig.—One to two tablespoonfuls every three or four hours.

ANIDROSIS.

A decreased or complete cessation of the secretion of sweat:—

℞. Comp. syrup of sarsaparilla . ʒiij.
Tincture of stillingia . . ʒij.
Spirits of nitrous ether . . ʒij.
M. Sig.—One tablespoonful three or four times a day.

ANTHRAX.

Malignant pustule:—

℞. Comp. tincture of cinchona . ʒiij.
Sol. of acetate of ammonium . ʒiij.
Brandy . . . . . ʒiij.
M. Sig.—One tablespoonful in water every two or three hours.

ANTHRAX.

Malignant pustule:—

℞. Creasote . . . . ♏ij.
Hydrate of chloral . . ʒij.
Syrup of ginger . . . ʒiij.
M. Sig.—Half to one tablespoonful in water every three or four hours.

ULCERATION OF THE CERVIX UTERI.

℞. Ext. cimicifugæ . . . fʒss.
Ext. collinsonia . . . fʒj.
Ext. geranii . . . . fʒiiss.
M. Sig.—Add two teaspoonfuls to a pint of water every morning and use as an injection.

CONSUMPTION.

℞. Tinct. sanguinaria . . . ʒss.
Ext. geranii . . . . fʒss.
Spts. vini gallici . . . ʒvj.
M. Sig.—Tablespoonful every four hours.

CONSUMPTION.

℞. Creasoti . . . . . ʒss.
Tinct. sanguinaria . . . ʒj.
Ext. geranii . . . . fʒiij.
Vini Portense . . . ʒviij.
M. Sig.—Tablespoonful one hour after meals.

SPONGY GUMS.

℞. Tinct. benzoini . . . . ʒss.
Tinct. krameriæ . . . . ʒss.
Tinct. cinchonæ comp. . . ʒiij.
M. Sig.—Dilute and rinse the mouth freely.

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Philadelphia, Sept., 1887.

MASKED MALARIA.

WHILE September, October, and November are prolific of typical cases of malaria, it must not be forgotten that this strangely omnipresent disease is capable of assuming the most protean aspects. Its three marked varieties,—intermittent, remittent, and congestive,—are so well known as to be recognized at once, not only by physicians but by the people at large. There is reason to believe, however, that many of its minor varieties are frequently mistaken for other disorders to the discomfort of the patient, and the annoyance or discomfiture of his medical attendant. The peculiar poison or miasm of malaria may attack any organ or area of the body, producing congestion and inflammation differing from ordinary or idiopathic inflammation of the same region, only its peculiar tendency to intermit or remit at certain intervals. Practitioners in malarial districts are so well aware of this fact, that they order antiperiodic remedies in every case in which they suspect a miasmatic element to exist. In this manner they cure in a few days many cases of malarial congestion of the lungs, pleura, brain, and bowels, which inexperienced physicians would term pneumonia, pleurisy, brain-fever, and cholera morbus, or choleraic diarrhœa, and treat unsuccessfully by administering the remedies ordinarily employed in those diseases.

Sciatica, neuralgia, rheumatism, synovitis, laryngitis, peritonitis, and cystitis, may also be simulated so closely at times by the manifestations of malaria as to defy differentiation, except by the speedy disappearance of the latter under antiperiodic treatment.

Astonished at the good results obtained in so many apparently diverse affections from quinine, many supeficial reasoners advocate its use in all inflammatory diseases. It is unnecessary to point out the error of that advice. Those who follow it will soon regret their action.

The purpose of this article is to point out that the same mysterious, telluric influences, which are present throughout the greater part of the year in the regions marked by the dark spots in Billings's Malarial Map frequently and suddenly appear in more favored regions during the autumn and spring, and that the cultured and cultivated North and East might profitably draw from the practical experience of the uncouth and swampy South and Southwest by being ever alert and watchful for the irregular manifestations of malaria.

A POINT TO BE REMEMBERED IN OBSTETRIC PRACTICE.

THE importance of abdominal auscultation in all cases of actual or impending labor cannot be overestimated. Vaginal examination may reveal that the presentation is favorable, the cervix dilating or dilatable, and that all the circumstances point to a speedy termination of the mother's sufferings, but, except in rare instances, it does not convey any information about the child. Yet, the first question that the expectant mother or anxious husband will ask is, "Is the child alive?"

In ninety-nine cases out of a hundred the assuring answer of "Yes, it's all right," is indorsed by the results, but when a dead child is brought forth, the routine physician who neglected to ascertain if the fœtal heart-sounds could be heard or not, is overwhelmed with self-mortification, if not with the reproachful inquiries of the mother and her friends.

His position is still more pitiable, if, after a casual examination, he went to see another patient, and returned after an hour or two to find that the child had been born during his absence, that the cord was twisted around its neck, and that it is dead. In many cases no amount of explanation, on his part, can convince the parents that the death of the child was not due to his failure to return in time.

He is also to be pitied if the case was one of forceps delivery, as the fatal result is certain to be ascribed to the use of the instruments. We

do not advocate the indiscriminate and ill-advised employment of the forceps to expedite delivery, but it is certain that in almost all cases in which a dead child is delivered, either by instruments or by the mother's unaided efforts, the death occurred *in utero* before labor began.

In many of these cases, the women who have been hoping against hope will at first declare that they have been in splendid health and spirits, and have not noticed anything unusual until just before sending for the doctor, but if closely questioned they will frequently admit that they have felt weak and dispirited, and lost flesh for a week, two weeks, or longer, and that they felt a dead, heavy weight in the bottom of the abdomen, which rolled from side to side when they leaned over. These symptoms, while not positively indicating the death of the fœtus, are *prima facie* evidence of it, and if, in addition, the fœtal heart-sounds cannot be heard, the physician, while encouraging the mother, should inform the father and friends that the child is probably dead.

If his fears are verified, after making this announcement, he will be held blameless in the matter, if they are not he will be credited with the possession of unusual skill in securing the happy termination of a formidable labor.

CONIUM.

DR. M. J. MADIGAN, in a brief but valuable article in a recent number of the Medical Standard, recalls the valuable properties of conium, and expresses the hope that it will not be permitted to fall into disuse.

It is one of the few drugs which have survived the mutations of professional favor from the time of Hippocrates until the present. The varying opinions which have been entertained of its usefulness are due in great part to differences in the quality of the preparations employed.

As conium acts as a sedative and depressant upon both the motor centres and the peripheral sensory nerves, its therapeutic applications are extensive.

Dr. Madigan has found it of decided value in facial neuralgia if mixed with lanolin and lard and used by inunction over the affected area.

Applied in the same manner between the symphisis pubis and the anus, it will relieve both the pain and the vesical irritability of cystitis. It has removed the neuralgic pains which often accompany pregnancy if locally applied in the manner already described. The pains of rectal and utero-vaginal cancer have often been palliated by local applications of the drug. A conium plaster over the right hypochondriac region is a classic and valuable application in hepatic cancer.

The fulgurant pains of locomotor ataxia, of chronic alcoholism, and of sciatica, as well as those occurring in chronic rheumatism and chronic phthisis, are often remarkably benefited by conium.

In acute articular rheumatism it has often lessened the pain and seemed to exert an alterative action on the disease.

Pruritis ani, if not due to rectal tumors, is often quickly relieved by it, even if fistulæ be present.

It is however as a motor sedative that it will be found of most value. Wherever there is motor agitation conium is indicated. In the typhoid-like condition which often results from mental over-work, and is attended by insomnia, exaggerated nervousness, and agitated delirium, it often acts like a charm in securing slumber. It does not do this directly, but acts by removing the motor agitation, which prevents the patient from sleeping. The drug should be given in ten minim doses of a fluid extract of the unripe fruit. These may be given, well watched, every half hour till slumber occurs. The preparation should always have the powerful mouse-like odor of conium, else it is worthless.

In epilepsy, hysteria, hystero-epilepsy, chorea, and in most convulsive disorders, it will be found of decided value, especially since it can be given without fear of producing a habit. It is of decided value in acute mania, and, while it may apparently cause the disappearance of delusions and seemingly possess an hypnotic action, both these actions are due to its removing the motor excitability, which is at once the source of the delusive ideas and the

cause of the patient's insomnia. While conium has no direct hypnotic influence itself, it promotes the hypnotic action of other drugs, by removing the motor excitement which interferes with slumber.

In Dr. Madigan's experience, a combination which answers as an admirable hypnotic in cases where chloral hydrate and hyoscyamus are indicated is as follows:—

℞. Ext. conium,
Ext. hyoscyamus . . āā ℥ vii.
Chloral hydrate . . . gr. x.
Aqua . . . . . ℥ss.
M. Sig.—This is to be taken at a dose.

Conium, as might have been anticipated, has been found of value in certain respiratory troubles. In three minim doses, it sometimes acts well in cases in which irritation of the tracheo-bronchial membrane is the most marked feature, and can often be combined with advantage with expectorants. It has been found to aid the resolvent action of the iodides, and may be advantageously combined with these in the treatment of syphilitic nodes.

MEDICAL NEWS AND MISCELLANY.

Dr. Max Stern has been appointed Instructor on Laryngology in the Medico-Chirurgical College of Philadelphia.

Opening Day.—The Cooper Hospital, of Camden, N. J., was opened for the reception of patients, on Monday, August 8th. Dr. Henry Garrett, of Norristown, has been elected the resident physician.

Dr. Thomas C. Rich, who has been an active and successful practitioner of medicine for some years in Philadelphia, has removed to Williamsport, Pa., to succeed in the latter place Dr. Thomas H. Helsby, who also takes Dr. Rich's location in this city.

Dr. John Milton Duff, Professor of Obstetrics in the Western Pennsylvania Medical College, was in Philadelphia on August 6th. Dr. Duff has been one of the most active workers in establishing a three years' graded course in a school that will reflect honor and credit upon every member of the Faculty.

Removal of Dr. Helsby.—All the members of the Pennsylvania State Medical Society who were present at the meeting last year at Williamsport, will always remember with much pleasure the energetic, genial hospitable Dr. Thomas H. Helsby who made all the members feel at home in his home. It will be now welcome news to all the Philadelphia members to know that Dr. Helsby has removed to this place. He is not only genial and pleasant, but ambitious and progressive. The doctor has located at 610 South Sixteenth Street, Philadelphia, and we welcome him to the City of Brotherly Love.

Burn-Brae.—The management of the hospital for the care and treatment of mental and nervous disorders situated at Clifton Heights, Delaware County, Pa., but a few miles from Philadelphia, has just received an additional appointment in the person of Dr. S. A. Mercer Given, as second assistant physician. Dr. J. Willoughby Phillips, the senior assistant, has been associated with Dr. Given for the past ten years, and during this time the facilities and usefulness of the institution have been greatly increased. Patients from all parts of the country are treated successfully in this model country home, and the recent addition will be of great advantage to the many who are sent there for treatment.

Rubber Nipples; Supplementary Uses.—Henry Biroth, in the Chicago Pharmacist, describes a number of uses to which rubber nipples may be put in addition to their legitimate occupation on feeding-bottle tubes.

1. With a piece of glass tubing, drawn to nearly a point at the further end, you can make a pipette or medicine-dropper.

2. They will answer excellently as suppository moulds. Hang them in the top of a tin seidlitz-box through which holes have been punched, dust the inside of the nipples with lycopodium, and disregard the perforation at the top.

3. Slip a nipple tightly over a moistened cork, and you have a rubber stopper.

4. Funnels and safety-tubes can be easily made by passing glass tubing through the nipples, flanging the tubes inside by softening the glass in a spirit-lamp, and making the rim with a pocket knife.

5. Fix over a Florence flask or test tube, and draw a piece of glass tubing through, and you have a substitute for a perforated cork.

Atropia Injections for Gonorrhœa.—I wish to call the attention of your readers to the value of urethral injections of sulphate of atropia in urethral and vesical irritability produced by gonorrhœa. Where gonorrhœa is accompanied with much vesical irritation, frequent urination, and tenesmus, I find the symptoms speedily relieved by an injection of one-quarter to one-half grain of sulphate of atropia, in one or two drachms of water, pressed gently along the urethra into the bladder. I have resorted to this method in several cases with the happiest results. I also used it in a patient who had taken an overdoes

of cantharides, which produced great vesical tenesmus and pain in passing water. One injection gave immediate relief. I leave the injection in the bladder, and have never seen any poisonous effects from the drug. I think it superior to the salts of cocaine, as the effects are more lasting. If any of your many readers have used the atropia as I have above directed, I would be pleased to hear of their results.—D. W. BOONE, M.D., *Med. and Surg. Reporter.*

A NOVEL DEPARTURE IN ADVERTISING.—Believing that the advertising of medicinal preparations often fails of its purpose, viz., to clearly and intelligently present to physicians their special advantages, pharmacal or therapeutic, on account of the fragmentary and imperfect manner in which the facts are usually conveyed in such advertisements, Parke, Davis & Co. propose to inaugurate rather a novel departure in advertising.

It is their intention to publish in the advertising pages they occupy in medical journals a series of what they term Plain Talks to Physicians, in each issue taking up a certain class of preparations and pointing out the reasons why they deserve to be prescribed, until all their preparations shall have thus been presented.

The excellence of the products of this house are well known, and it is to be presumed that their long experience in the manufacture of medicines will enable them to say in these informal talks something of real interest and benefit to their medical friends.

POISONOUS COLORING. — The Philadelphia Board of Health has issued a circular warning bakers, confectioners, candy manufacturers, and others from using any of the following substances as coloring matter, or for other purposes in articles of food or drink :—

Blue vitrol, puce, king's yellow, chrome yellow, Turner's yellow, cadmium yellow, Turpett mineral, citron yellow, chrome zinc, Naples yellow, yellow ochre, mosaic gold, orpiment, Paris yellow, menium, red lead, vermilion, purple red, iodine scarlet, realgar, collalhar, rouge, red ochre, crocus, chrome green, Remner's green, mountain green, Paris green, Scheele's green, verdigris, emerald green, Schweinfurth green, mineral green, Brunswick green, aquamarine, mountain blue, Prussian blue, Antwerp blue, soluble blue, umber, sienna, vandyke brown, chrome orange, kermes mineral, and all colors not herein mentioned containing or liable to contain appreciable quantities of arsenic, antimony, mercury, lead, copper, tin, zinc, barium, cobalt, nickel, cadmium, or bismuth.

The health officer was directed to prosecute every person using them.

INTERNATIONAL MEDICAL CONGRESS. — Dr. George Fielding Blandford, 71 Grosvenor Street, London, formerly lecturer on psychological medicine at St. George's Hospital, has promised to give a "General Address" before the International Medical Congress, "On the Treatment of Recent Cases of Insanity in Asylums and in Private Houses." Dr. Blandford occupies a high position among the psychologists of England, and his address will doubtless prove instructive.

The programme of the general addresses before the Congress is understood to be as follows :—

Monday.—Address by the president of the Congress, Dr. Davis.

Tuesday.—Drs. Flint, of New York, and Semmola of Naples.

Wednesday.—Drs. Unna, of Germany, and Blandford, of England.

Thursday.—Drs. Lutaud, of Paris, and Neudorfer, of Vienna.

Friday.—Business meeting.

Many of the presidents of sections will open their sessions by an appropriate address, and there is likely to be an "*embarrass des richesses*" as the worthy papers are apparently in excess of the time allotted the sessions for their reading and discussion.

Committees of reception for foreign delegates have been appointed in New York, Boston, Philadelphia, and Baltimore.

A CASE OF CHRONIC PROSTATITIS: A PATHOLOGICAL CONTRIBUTION TO THE STUDY OF THE PHYSIOLOGY OF THE PROSTATE GLAND.—The patient, a healthy man, aged twenty-eight, came under treatment in May, 1884, with symptoms of chronic inflammation of the prostate of eighteen months' duration: the condition having supervened upon an acute abscess of the gland, the result of gonorrhœa.

The only symptom of which the patient complained when first seen was a persistent sensation of fullness and discomfort in the perineum, increased during defecation, and aggravated considerably by horse exercise; but, in reply to an inquiry, he stated also that sexual intercourse, since the commencement of his illness, had ceased to be accompanied by seminal emissions, although the act was perfect in all other respects. It appeared, however, that he always experienced at the moment when ejaculation should have occurred a feeling as of "something going backwards into the bladder," and noticed that the urine passed after coition contained a quantity of glairy matter (subsequently ascertained to be semen). A rectal examination detected induration and enlargement of the prostate, especially distinct at its base, with tenderness on pressure in the same situation. The genitals and urethra were normal, and the urine was passed in a full stream.

Under treatment the local signs gradually

subsided. At the end of six months the gland had nearly resumed its ordinary dimensions, and the seminal emissions had begun to reappear. Three months later the power of ejaculation was fully restored, and the patient has since remained perfectly well.

The interest in this case lies wholly in the loss of power of seminal emission during the duration of the prostatic inflammation. When the patient came under observation there was complete evidence that the semen was secreted, and that it was poured into the urinary passage at the time of copulation; and as the canal was free from obstruction the retrogression of the fluid into the bladder could only be explained by a failure of the contractile force, which, under normal conditions, occludes the urethra behind the ejaculatory ducts. The force in question can only be supplied by the powerful ring of unstriped muscle which, with its urethral lining, constitutes the whole of the superior portion of the organ lying between the point named and the internal urinary meatus, and while the sphincter fibres are in action, the musclar tissue, striped and unstriped, of the inferior portion of the gland presses out the accumulated prostatic mucus, and aided by the constrictor urethræ and bulbo-cavernosus lends the energetic *vis a tergo* necessary for the ejaculation of the mingled secretions. In the present case the prostatic sphincter was rendered inefficient by the chronic inflammatory process, and the semen passed in the direction of least resistance.

Other cases of a similar kind have no doubt been observed, but I am unable to find in the literature of the subject any references to interference with the sexual functions. This omission is perhaps to be explained by the fact that in many instances the superior, or sphincteric, portion of the organ may be implicated to so slight an extent that it quickly regains its competency; and in others, where ejaculation is actually suppressed, the sign may easily escape the notice of the patient, or he may not think it necessary to mention it to his medical adviser.—WILLIAM ANDERSON, F.R.C.S., *British Medical Journal.*

ECZEMA PAPULOSA CONTAGIOSA, OR PRAIRIE ITCH.—Eczema is generally described in the text-books as a non-contagious affection of the skin; my two years' experience with this dermatosis, however, convinces me that the present eruption is contagious, and has been gradually propagated from one neighborhood to another, until we find it diffused, not only over some of the Southern, but also Eastern States. By a tacit understanding among the people of the invaded States, it has been named "the itch," *par excellence*, and on the prairies "the prairie itch;" but everywhere the symptoms, course, and *finale* of this affection seems to be the same.

What is the cause of the present contagious form?

Prior to the last, we had two very severe winters, something rather unusual in this latitude. People had to house and clothe themselves more carefully, and hygienic measures were generally grossly neglected among the lower classes, from whom the present affection received its first impetus. Wearing heavy flannels for weeks, and perhaps for a longer time, without proper ablutions and without frequent change of underclothing, must necessarily produce an irritation and congestion of the skin, which, sooner or later, assisted by the unavoidable scratching of the itching surface, will form an eczematous eruption, which, with all disregard to cleanliness is destined to advance to other stages, and to contribute to the extension and persistence of the eruption. The clear yellow serum contained in the minute vesicles will, under these circumstances, undergo a change in its chemical nature that will undoubtedly favor the formation of parasites. This theory will probably explain the contagiousness of this affection. In all cases, the patients themselves could trace their affliction back to friends with whom they slept or whose clothes they wore. If our microscopists would investigate this matter, our doubts would soon be at rest.

Acting under the idea that our eczema papulosa was of a parasitic nature, I adapted my treatment accordingly, and met with great success.

Where the patients presented only an irritable and congested skin, *i.e.*, in the first stage, I merely ordered the patients to use inunctions with lye soap (sapo viridis would be better) all over the body at bedtime and in the morning to bathe with warm water. Blue mass whenever needed; if not, then sulphate of magnesia, three drachms, in a wineglassful of water before breakfast. Continue the soap every other night; the salts every morning till well. This was generally sufficient to cure the first stage.

As soon as the vesicles appear upon a tense, swollen, and red surface, they soon increase in size and become filled with limpid serum. In mild cases and under appropriate treatment, the serum is absorbed, the vesicles dry up and form either thin crusts or scales, which soon fall off and leave the skin red and tender. In this stage I prescribe:—

℞. Plumbi acetatis,
Acidi carbolici . . āā ʒiij.
Ext. belladonna fluid . . fʒss.
Glycerini . . . . fʒiij.
Aqua . . . q. s. ad fʒx.

M. Sig.—Apply soft cloths moistened with this solution to the affected parts. When dry moisten again and keep moist.

This soothing solution will act like a charm and subdue the severe itching and burning. Internally I prescribe—

℞. Magnesiæ sulphatis . . . ℥iv.
Elixir vitrioli . . . . fʒss.
Tinct. gentianæ . . . . fʒiij.
Aqua. . . . q. s. ad fʒiij.

Sig.—A teaspoonful in wineglassful of water after each meal.

In anæmic cases I add ferri sulphatis, gr. xvj, to the above. This mixture will keep the contents of the bowels in a soluble state and disperse cutaneous congestion. It also acts as a mild tonic.

As soon as the vesicles burst the eruption becomes confluent, forms dark-brown crusts, and leaves an unhealthy state of ulceration under it, I change the external treatment. The ichor in these cases is generally so irritating that under the crusts ulceration is deepening. Where I find crusts, I order poultices to remove them; but if already removed, I give my patients the following—

℞. Acidi carbolici . . . . ℥ij-iij.
Zinci oxidi . . . . . ℥ij.
Cosmolini (vel vaselini) . . ʒij.

M. Ft. ungt.

Sig.—Anoint two or three times a day.

Sometimes I use the ungt. hydrarg. amoniat. of the "United States Dispensatory," with carbolic acid, and with equal success.

I continue the saline mixture, but should the patient need a bitter tonic, I prescribe elix. calisaya, strychnine, and iron.

In all stages, I insist upon frequent ablutions and change of underclothing.—Dr. H. J. Warmuth, *Nashville Medical News.*

Two Rare Clinical Cases.—The two cases to which I wish to draw attention are not merely of rare occurrence, but possess points of interest which may probably be deemed worthy of record.

The first, that of a young lady, aged sixteen, to whom I was called on Wednesday morning, March 17th last, caused me very considerable anxiety during the first fortnight of my attendance. I was told she had been apparently quite well up to the previous evening, when her neck was noticed to be swollen and red at its upper part. Complaint was also made of slight pain in the right arm-pit. She had passed a rather restless night, but did not strike one as being seriously ill when first seen. The temperature was 100° Fahr.; pulse, 108; tongue pretty clean, and bowels not confined. She belonged to a highly neurotic family, whose temperature was always liable to rapid elevation from even trifling causes. Though not by any means robust, her general health was usually good. I failed to detect any swelling of the neck, which had been noticed by several persons during the previous evening. The treatment, in the absence of definite indications, consisted of a simple aconite mixture. At the second visit—viz., on Thursday morning, the symptoms seemed just the same, but temperature was 100½° Fahr. A most careful examination failed to detect any more suggestive signs. On Friday morning, however, I was disappointed and alarmed to find the temperature 101½° Fahr.; whilst the pulse had risen to 112 per minute. A severe cross-examination elicited that the patient had complained of a slight itchiness or irritation of the private parts. I therefore directed the mother to carefully examine the vulva and anus, and report to me at the evening visit, which my uncertainty as to the cause of fever necessitated. At 9 P.M. the temperature had risen 103¾° Fahr., and the pulse 120. The patient's features were now flushed, and she was more restless. The result of the examination was negative, for the mother said that she could see nothing wrong. And yet on inquiry I found that the irritation mentioned was still present, though the amount of complaint respecting it was trifling. So, like a drowning man catching at a straw, I decided to examine for myself, a proceeding which I had been anxious to avoid, on account of the tender age of the patient. Imagine then my surprise and horror to witness the vulva in a state of acute gangrenous inflammation! The nymphæ and clitoris were intensely red and swollen, whilst their inner surfaces, as well as those of the fourchette and vagina, as far as one could see, were covered by ashen-grey sloughs, having a very fœtid odor. No trace of hymen remained. Here then at last was the "*Fons et origo mali!*" The treatment included the dusting of affected parts with iodol, which is practically inodorous iodoform. They were also carefully separated by lint.

As an antiseptic febrifuge I prescribe a mixture of sodium salicylate (grains fifteen to the ounce) every two hours. These measures were simple of performance, but not so the interview with anxious parents. How was one to account in any satisfactory manner for the appearance? Notwithstanding the fact that I had never seen a case anything approaching this in kind outside a lock hospital, all suspicious circumstances were necessarily and fortunately excluded. The patient was an extremely innocent school-girl, and all her movements were easily traceable. I inquired most carefully as to the possibility of diphtheritic or scarlatinal infection, which appeared to me the most reasonable cause, but could learn nothing corroborative. None of the girls at the school where she was a boarder had any ailment likely to have given rise to such an attack. The patient, I learnt, had concluded the usual menstrual period on the Friday or Saturday

previous. Pushed into a corner, therefore, I gave it as my opinion that this was a case of diphtheritic infection, obtained in some unknown manner. Saturday morning found the temperature 100° Fahr., and the pulse 108, as at the first visit. This was all very well, but the evening again registered a temperature of 102° Fahr. in spite of iodol and sodium salicylate. Sunday morning was still worse, with a temperature of 103° Fahr., and the pulse 112 per minute.

It need scarcely be said that such a case, in spite of all one's most earnest attention, was anything but satisfactory, and therefore I fortified myself with the opinion of my friend, Dr. Myrtle. His outspoken decision was: "I have never seen a case like that outside the wards of an hospital!" He was also much impressed with the urgency of the symptoms, and feared that unless the ulcerating process was soon checked, the rectum would be perforated. In advancing my theory as to a diphtheritic cause, I pointed out that two glands in the right arm-pit had suppurated, and were now covered with the same ashen-grey colored slough as on the vulva. Similar small ulcerations also had taken place at the corners of the mouth and the nostrils, whilst the gums were soft and spongy, covered here and there with white patches, resembling those of the "thrush." Dr. Myrtle thought the attack was erysipelatous in character, and recommended the administration of tincture of the muriate of iron, and the use of iodoform externally.

Next morning (Monday) the temperature marked 101¾° Fahr., and the pulse 112. In the evening, Mr. T. Pridgin Teale, of Leeds, arrived, having been brought by the patient's father. At the examination we had the great satisfaction to observe for the first time that a considerable membranous slough had come away, leaving a more healthy looking, reddened, ulcerated surface. The treatment was continued, with the addition of small doses of calomel and morphine. Mr. Teal declared he had never seen a similar case before.

On Tuesday morning, of the second week, the temperature was 102° Fahr., and in the evening it had risen to 103° Fahr. During this day Port wine was administered liberally, and twenty grain doses of salicin substituted for the tincture of iron. The appearance of the ulcerated surface was much the same, the reddened base of the sores now showing through a diminished thickness of slough. Evidently a check to the gangrenous process had taken place. The urine was slightly albuminous.

On Wednesday morning the temperature had dropped to 100° Fahr., but it rose again in the evening to 102¾° Fahr. On Thursday evening it reached 103° Fahr. Notwithstanding this upward tendency of the fever, the appearance of the sores was now much healthier. The slough had almost disappeared, leaving a red granulating surface. Iodoform was therefore discontinued, and simple cleansing with Condy's fluid adopted. The recovery of the patient continued from this period, but at a very slow rate. Something like a normal temperature was reached about the end of the second week. Utter prostration of the nervous force was a marked feature, and there was an entire absence of that elasticity in convalescence so noticeable in young people. It was certainly fortunate that the ability to take large quantities of food and stimulants never deserted the patient. She was, however, many weeks in regaining strength; so much so that one could not help dreading the onset of some form of paralysis. From such a catastrophe she was happily spared. Good living, change of air to the seaside, and the lapse of about six months, succeeded, I am glad to say, in restoring her customary health.

Now in reconsidering this case, it is evident that it must be classed along with such ailments as gangrenous stomatitis and vulva phagedena of children, which are recorded in the books. Authorities seem to be agreed that it only occurs in broken down and weak constitutions; also that some form of infection, such as typhus, typhoid, diphtheria, scarlatina, or measles, is the exciting cause. The complaint has been observed to occur in the epidemic form, either in young children suffering from one of the maladies just named, or among women as the result of puerpural peritonitis. That the disease is somewhat rare, is, I think, shown by the acknowledgment of Dr. Myrtle, Mr. Teale, and myself, that we had never before witnessed a similar case.

The young lady I attended had evidently been left in total ignorance as to the meaning of a menstrual period. She had no idea that it was necessary for her to take precautions for cleanliness at such times. Considering that the "menses" had just terminated about the time when she first felt some itchiness or irritation of the pudendum it seems not improbable that this periodic molimen was, at least, a predisposing cause of the attack. That some poison, such as that of diphtheria or scarlatina, was the exciting cause, seemed strongly indicated from the resemblance of the symptoms, *multatis mutandis*, to those affections of the throat common to these diseases. It does certainly seem remarkable that young girls and women, subject as they are to menstrual periods of varying profuseness, under conditions which too often exclude the slightest regard as to cleanliness, should escape diphtheria of the vulva when infection is abundant around them. If merely uncleanly habits were a possible cause, one would look for the much more frequent occurrence of this disease.

By slightly varying the circumstances, a case similar to that I have described, might very easily

assume a serious medico-legal aspect. The patient's intimacy with a male companion would be quite enough to throw suspicion upon the latter on the outbreak of this dreadful disease. Should he, moreover, be found suffering from venereal affection, the most unbiased medical witness would be liable to be deceived. Drs. Guy and Ferrier record in their "Medical Jurisprudence," a case where a boy, of fourteen years' old, actually had a verdict of murder returned against him by a coroner's jury, at Lancaster, in 1791. A child, aged four, had slept in the same bed with him for a few nights previous to an attack of this kind, from which she died on the ninth day. The boy was acquitted at the following assizes from want of sufficient evidence; and it was afterwards found that the little girl had suffered from typhus fever, accompanied by mortification of the pudenda.

Lastly, I cannot help calling special attention to the absolute necessity for a medical man to see and examine for himself the physical condition of his patients, until he is thoroughly satisfied as to the cause of their ailments. No second-hand evidence must be received in important or dubious complaints. It is appalling to think what might have been the effect on my patient of even another twenty-four hours' neglect of local treatment. Had I accepted her mother's statement that there was nothing wrong, in all probability the little sufferer's life would have been sacrificed by the delay of appropriate treatment.

The other case, I wish briefly to allude to, is one of simple fracture of the upper third of the thigh, under very untoward but interesting circumstances. The patient, an invalid gentleman, forty years of age, had suffered from complete paraplegia since he was twelve years old. A schoolfellow in play jumped upon his back, and it was supposed thus excited disease of vertebræ in the upper dorsal region. For about thirty years he has had no power of motion, or any sensation below the waist. The action of the bladder is very imperfect and irregular; whilst the bowels are only opened by means of medicine or enemata. He can only lie flat upon his back, or on his face. Occasionally he sits propped in a chair for a short time, and thus in a Bath chair he obtains an hour's open airing during fine weather. On the 26th of June last, this gentleman was being carried as usual from his room to the Bath chair at the front door, by his man-servant. The latter was supposed to be a strict teetotaler. However, "it's a poor heart that never rejoices," and on this occasion he had evidently had a "drop too much!" The consequences were that he stumbled on the front door steps, dropping and falling on the top of his helpless master. On arrival I saw at a glance that the thigh was fractured, and my heart literally sank within me when I thought of my poor patient's already helpless condition being thus dreadfully aggravated. Consolation, however, was immediately at hand. It was certainly a refreshing and novel sensation to set a fractured thigh without giving the slightest twinge of pain to the party concerned, for I cannot correctly call him either sufferer or patient! Moreover, there was no resistance of spasmodic muscles to overcome; of extension there was no need; and the application of long splint and bandages was merely perfunctory. From beginning to end there was neither pain, nor apparently even discomfort. As he had been accustomed for many years to lie patiently on his back, so was he quite independent of any feeling of irksomeness at having to assume this position for several weeks. The feeling of pity which now and then renewed itself was, I believe, quite misplaced. I never had such an easy case to deal with, for there was literally nothing to be done. Here I would suggest that if some ingenious medical brother would only introduce a drug, or some plan to cause temporary artificial paraplegia, for cases of fracture of the lower extremity, his memory would be blessed by doctor and patient of all generations. Certainly there seems no adequate reason why a paraplegic individual shouldn't have a lower limb broken occasionally as a simple diversion from his ordinary hum-drum existence!

In spite of my sinecure attendance, I was uneasy in mind as to the ultimate result to be expected. Having no personal knowledge about the repair of bone under these peculiar circumstances, I feared that sufficient "callus" might not be thrown out. Nature might be competent for the daily nourishment of parts, but in the absence of all pain the necessary reflex stimulus for the supply of repairing pabulum might yet be wanting. The progress of the case, however, belied all such fears. By the end of a month quite a mass of "callus" had been formed, and the bone was firm again. Indeed, the healing process appeared to go on at an unusually rapid rate; possibly owing to the absolute rest afforded. Doubtless the records of paralytic hospitals may occasionally show similar accidents with as fortunate results. However, to myself, it seemed sufficiently exceptional to be worthy of mention to this society—J. GORDON BLACK, M.D., *Provincial Medical Journal.*

OBITUARY.—Dr. Charles Willing, a well-known Philadelphian, and the greatgrandson of Charles Willing, one of the early mayors of the city, died on Wednesday, 31st ult., at Tockington, his summer residence, near Jenkintown. He was born in this city on October 26, 1805. When a young man he entered the Sophomore Class of Harvard College, from which he graduated in 1825, graduating later on from the Medical Department of the University of Pennsylvania. Subsequently he continued his medical studies in Paris.

BOOK REVIEWS.

Nineteenth Century Sense. PROFESSOR GARRETSON'S new book.

Heretofore, when a new volume by John Darby has made its appearance the press at large has been quick and profuse at a review. With the present work there is a strange reticence, and even where this does not exist there is a guard seen thrown about the criticisms, which guard is not at all a common virtue with reviewers. The writer of this has been permitted to see a private letter addressed to a personal friend, by the literary editor of what is perhaps the most prominent journal in this country, which he is disposed to accept as explanatory of this reticence.

"The book," says the writer referred to, "deals with problems which, while fully and easily apprehensible by an 'initiate,' are not at all comprehensible by people at large, hence it would be entirely useless to try and make understanding where such faculty as reference is had to this kind of writing does not exist."

This writer, in his letter, queries as to the probability of a law existing in nature by which non-initiates, who would most likely be confused and confounded by such studies, are discouraged from entering into them. A reviewer in Lippincott's Magazine guards himself as follows: "Until you 'understand a writer's ignorance, presume yourself ignorant of his understanding.' There are portions of the book which he says he is not sure that he has comprehended, but he is willing to own that the muddle may be in his own mind, especially as the larger portion, which he finds intelligible, is a sufficient revivification of mediæval metaphysics in terms of the nineteenth century."

This reviewer goes on to say that while he can grant the quality of comprehension to the human mind, he is not at all prepared to grant apprehension as a quality of the human *Ego*. His termination is as follows: "But a reviewer, who has grown to doubt all metaphysics, who looks on all ontological speculations as words thrown at the Unknowable, with only the result of further obscuring it, to such a reviewer it can make little difference whether he understands the author's ignorance, or is ignorant of his understanding."

If this writer had recollected the neo-Platonic aphorism "that like is knowable only to like," he would scarcely have committed himself to the extent of an admission which shows lack of familiarity with the wide thinkers of the world.

"Nineteenth Century Sense" is undeniably what the New York Tribune calls it "A strange book." It is assuredly strange to say that "common sense is little better than no sense at all," that "to know yourself is to have come to knowledge of the Universal," that "nothing in the world is what it seems to be." Yet here are three aphorisms which constitute the foundation of the book, and which, if any one be found breakable, the edifice tumbles to the ground. Assuredly the book is not understandable by any one who is not able to comprehend and to take in meaning as heighth, depth, and width in these aphorisms are concerned. They cover everything if they cover anything. Another of the foundation stones of the structure lives in an assertion which is left entirely unqualified, that "imagination is one with reality," that is to say, to put this as the author evidently means that it shall be understood. We quote his words, "Imagination is likable to a sun-ray, which, being thrown into a dark and apparently empty room, discovers millions of inhabitants floating in the line of its track." It seems to us this is not to be denied. The sun-ray does not make the motes, it simply discloses or shows them. Our author contends that imagination shows, or discovers, that it does not make. What most exactly is meant is not to be put with clearer illustration than is used in the book. We quote from page 196: "The holder of the pen, following the leading of an impulse, has wandered quite a thousand miles since he last sat before these pages. Within the time of a single day he had discovered to him the extreme poverty of his personal inspirations in having been a witness to more than three hundred thousand materializations of visions beheld at one time or another by fellow countrymen, every one of which visions has had such demonstration made of its oneness with reality as to have become feelable and usable by the least sensitive among men. Foolishness, indeed, to an unvisionary man are visionary flower-baskets a visionary great stars; foolishness, however, because the man is unapt. To say that things imagined and things real are of common import, and to propose that both are alike practically usable, is to invite from the unapt man criticism not at all complimentary to what is esteemed common sense. Here lies with the critic misconception, which it is not at all likely he is able to correct. A critic plausibly questions if a meal imagined be one with a meal eaten. The fault of the critic rests with his plane of looking at a matter. Assuredly, it is neither a written nor printed line which is the poem of the poet. A score is not the sonnet; drawings are not designs. As assuredly, however, is it the case that lines, scores, and drawings are the only poems, music, and designs that 'common sense' is able to conceive or take hold of. Planes relate variously with necessities of the body and capabilities of the *Ego*. Body requires meat for its sustenance; *Ego* is not a thing having a mouth. There is an appetite of taste, and another appe-

tite of smell. The first is satisfied only with bread, which is a material that is to be handled and bit into; the latter has its necessity filled alone by odor, which is a material that is subservient to the use of neither fingers nor teeth.

"The materializations witnessed by the holder of the pen are to be seen by any person who will visit a patent-office. Multitudinous show-cases at Washington hold the many seen by the writer. To understand the material things seen as being wholly and purely materializations, this patent-office will be wisely entered through the statuary-room of the capitol, where to the left of the door is the carved image of Robert Fulton portrayed, as he struggles for means to materialize or show a steamboat to the eyes and uses of ordinary people. A critic seeing, yet seeing nothing, still denying the oneness of imagination and reality, repeats his question as to the meal imagined and the meal eaten. Answer is both 'no' and 'yes.' 'No,' certainly, to the critic, as his query relates with bodily wants, and takes no account of the spiritual; 'yes,' as assuredly to a questioner who differentiates between *Ego* and environment, and who has taken in the difference as to the sense of taste and smell. The things seen in a patent-office are never the things themselves, but representations of them. Because the things seen are crude approximations, effected by use of crude materials, the representations are seldom found to work with a perfectness of an original as this exists in the ideal. Poems are never upon paper as they are in the imagination, notes are not found distinctive enough to express shades of melody. Drawings are lacking as difference contrasts with mental architectural designs.

"A steamboat existing with the imagination of Robert Fulton, and in which he could travel the world over, requires a union of wood and iron, and the handwork of a hundred men before the boxes and bales of commerce can be transported by it from wharf to neighboring wharf. Difference here is with what is to be carried. Intangible relates with intangible; tangible associates with tangible. For a hungry body meat is a necessity; where hunger is with soul a spread table is an offence.

"Passing from Robert Fulton and the form-makers, the eye of one who continues leftward, from the great door will find itself quickly attracted to an upturned face, looking at imaginations without apparent thought as to any environing of them by material. The face is that of Roger Williams, the Puritan. As the face shows from the marble, it expresses a life for which no Fulton had occasion to materialize a steamboat, nor any Stephenson reason to build a locomotive. What a delight and illumination it is to gaze into this upturned face, catching out of the reflection faint semblances of what is to be seen by one of spiritual development; this lessening not at all admiration for the materializations of the steamboat-maker, but opening conception as to conveyances which carry without the aid either of wheels or material motive-power. Circumstances alter cases. Roger Williams left to himself would have lived in as close alliance with the Spiritual remaining in Wales, as when banished from his colony of Massachusetts, he turned for company to the inhabitants of a world unseeable by common eyes.

Considering that the multitudinous things seen in a patent-office are simply representations of ideas or imaginations, and that an equal reality is found to exist with both, it becomes impressed that what is easiest of attainment offers most to the philosopher; for, as it is with things living in an inventor's imagination and things seen materialized upon the shelves of show-cases, so it is with all things, nothing in reality being anywhere or being anything save as the anywhere and the anything are to the wants of the user."

The chapter on "Mediums and Sensitives," is a revelation which converts mediums into ordinary people, and affords explanation as to the way of becoming a medium.

A chapter on "Illuminate Living and Thinking," if read by itself, is mystical enough for a Platonist of the Alexandrine school, or for the most ultra modern spiritist or theosophist. Read, however, in connection with preceding and succeeding chapters, its occult will certainly be plainly understood by any person able to differentiate subjective and objective.

We think the mysticism of the "Nineteenth Century Sense" lies in this, namely, that what in Dr. Garretson's mind precedes his work is not in the mind of the general reader. We say this out of reason of being the possessor of the various literary works of this author, and being familiar with them, and finding in them a key to what is esteemed occult in the one here considered. The conclusion of the work teaches, that a man on reaching a certain state of development comes by further knowledge without study, and this differs little, if at all, from opinions held by Philo, Plotinus, Porphyry, and Procleus. It is found that Dr. Garretson has formulated a system of philosophy, and it is a happy one. Perhaps it is to be accepted, as said by a reviewer, that this book will better fit the twentieth than the nineteenth century; for it is not far from being fact, "that the philosophy of one generation becomes the common sense of the next."

A Text-Book of Pathological Anatomy and Pathogenesis. By ERNEST ZIEGLER, Professor of Pathological Anatomy in the University of Tübingen. Translated and edited for English students, by DONALD MACALLISTER, M.A., M.D. Three Parts; complete in one volume. New York: William Wood & Co., 1887.

Professor Ziegler, after some most essential introductory remarks in his able work, treats the various subjects under consideration in twelve sections; the latter are in turn divided into one hundred and three chapters. Each page is so complete and every topic so thoroughly discussed, as to include all the most recent views on pathology. Section VII, on parasites, is one of the most valuable and instructive portions of Part I. Bacteria, both within and without the body are well considered in this portion of the work, and erysipelas, for instance, being shown to be due to a micrococcus. In referring to scarlatina the author states, "We have no certain knowledge as to its causation," and the more recent investigation continue to bear out this investigator in the views just quoted.

Section X., on the respiratory organs, includes a most extensive research upon this important part of the economy. The various forms of pneumonia are pointed out, and well illustrated by some very striking diagrams, which assists very much the terse, yet graphic expressions in the text. The central nervous system is reviewed in Section XI., the account of simple and degenerative atrophy being one of the most interesting chapters considered by the writer. The work, as a whole, is the most complete in the English language for a rapid consultation by the busy physician.

The Annual Medical Register for New York, New Jersey, and Connecticut, for the year commencing June 1, 1887. Published under the supervision of the New York Medico-Chirurgical Society. WILLIAM T. WHITE, M.D., editor, 130 East Thirtieth Street, New York, Station F. Vol. xxv. New York: G. P. Putnam's Sons, 27 and 29 West Twenty-third Street, 1887.

This ready reference book is useful to every physician residing in New York, New Jersey, and Connecticut. It not only gives a full list of all members of the profession in the above States, but also most accurate addresses of national and State institutions, hospitals, and dispensaries are all included in a most careful and systematic arrangement. Dentists and pharmacists are also included in the book, but are specially classified. Nurses are named and recommended, and it is furnished with a business guide, and other well arranged points of incalculable value to every physician.

Hand-Book of Materia Medica, Pharmacy, and Therapeutics. By SAMUEL O. L. POTTER, A.M., M.D. Philadelphia: P. Blakiston, Son & Co., 1012 Walnut Street, 1887.

The most practical and concise work recently produced from any author is before us. Dr. Potter has given all the old and all new remedies that have proved of service in practice. His reference to each preparation is brief, the physiological action sufficient, and the therapeutics most thorough in every respect. The subjects are arranged alphabetically, and can thus be easily referred to. The concluding portion of the work, Special Therapeutics, contains a condensed but thorough treatment of all diseases.

On the Pathology and Treatment of Gonorrhœa and Spermatorrhœa. By J. L. MILTON, Senior Surgeon to St. John's Hospital for Diseases of the Skin, London. Octavo, 484 pages, illustrated. Price, bound in extra muslin, $4.00. New York: William Wood & Co.

A practical physician is rarely a writer, and in this respect Dr. J. L. Milton differs from the majority of book-makers in his discussion of the pathology and treatment of these two troublesome diseases. He spares the time of his hearers by going at once to his point, especially in considering the best means of combating each disease. In this connection we might allude to the very many practical internal and external suggestions the author makes for relieving gonorrhœa, gleet, and spermatorrhœa. The pages of the book abound in strong and useful points.

A Practical Treatise on Diseases of the Hair and Scalp. By GEORGE THOMAS JACKSON, M.D. New York: E. B. Treat, 711 Broadway, 1887.

The literature since 1860 is arranged in a most careful manner by Dr. Jackson, and referred to in this most excellent work. The opening chapters are on the anatomy and physiology of the hair, and followed by a most complete account of the hygiene of the hair. The chapters on the essential diseases of the hair, which occupy the remaining portion of the work, especially the one on alopecia, shows most careful and systematic study of the several diseases under consideration, and good deductions in every instance.

Anæmia. By FREDERICK P. HENRY, M.D., Professor of Clinical Medicine in the Philadelphia Polyclinic; one of the Physicians to the Episcopal Hospital; one of the Physicians to the Philadelphia Hospital; Consulting Physician to the Home for Consumptives; Corresponding Member of the Royal Medical Academy of Rome, etc. Reprinted from the Polyclinic. Philadelphia: P. Blakiston, Son & Co., 1887. Price, 75 cents.

This is a very estimable little volume, being the first systematic treatise of the kind published in this country. It is very wholesome reading, and we predict for it a large sale.

COMMERCIAL NEWS.

Substitution Restrained.

Much has been written recently on substitution by druggists of remedies of their own compounding when well known compounds of a particular manufacture had been prescribed. This questionable practice has evidently resulted in harm to the manufacturer as well as to patient and physician, and we note with gratification that Battle & Co., have brought suits in equity against a number of druggists who have counterfeited their well known hypnotic—*Bromidia*. The United States courts have already restrained several druggists, and it is to be hoped that this nefarious practice of substitution will soon be entirely broken up.

Safe Investments for Physicians.

The Western Land and Investment Company makes a specialty of investments for physicians, and we would call attention to their advertisement. The company is doing a large business in Western securities, and as they pay a higher rate of interest and are perfectly safe, they can not be too highly recommended.

Physicians, as a class, are thrifty, and need some safe channel for the investment of their earnings. Those of the profession who are fortunate enough to have something laid by, cannot do better than place it in good, safe securities, paying seven per cent. interest. We would advise all such to correspond with the company, and get their circulars and bulletins.

Mr. Henry A. Riley, the general manager of the company, is well known to the profession from his contributions to the medical press on medico-legal topics. Next month's issue of The Medical Bulletin will contain an article from his pen.

Habitual Constipation in Children.

"We know that infant feeding is the subject of great difference of opinion among mothers and nurses, and sometimes children thrive on a diet which doctors consider unsuitable. There is no doubt, I think, that some malted foods added to milk are both digestible and nourishing; they stimulate the bowels to regular action, the motions becoming normal in appearance and quantity, whilst body growth increases at a proper rate. I have known of many cases where Mellin's Food (which has now become a very popular preparation) has agreed well with young children, improving their nutrition in a remarkable manner. It is soluble in cold water, and said to contain 87 per cent. of dextrin, maltose, etc., but the efficacy of the food, according to Mr. G. Wigner, consists in its containing those nitrogenous and phosphatic principles which contribute to the growth of bone and tissue. The starchy and sugar elements are in small proportion.* When mixed with milk its digestive power is increased, and is most valuable as a nutritious food. In June, 1884, I saw a child, eight months old, who was brought up by hand, and did not thrive owing to flatulent distention of the bowels and constipation, the motions being hard and pebbly with much straining in defecation. Mellin's Food, mixed with milk, quickly overcame these troubles, and the child soon became strong and healthy. In another case, a child, aged one year, also brought up by hand, was very constipated, thin, and whining, with the wrinkled face of abdominal trouble. It was rapidly passing from bad to worse. From the day Mellin's Food was given an improvement set in, the sickness ceased, the abdomen became soft, and the action of the bowels was healthy and regular."—Dr. Wm. H. Day, in *London Medical Press*, May 11, 1887.

Premature Labor.

Mrs. B—, aged nineteen years, a resident of Galesburgh, Ill., received a fall while attending her household duties, which jarred her very much, and having reached the third month of pregnancy (her first) her attending physician feared that premature delivery would be the sequel. When she was able to travel, she, attended by her mother, came to consult me in relation to her critical condition. On May 9th, after inquiry and obtaining facts as stated, I gave her four ounces of Aletris Cordial, one drachm before meals, and ordered her to keep as quiet as possible. On the night of June 23d, was called in haste to attend her in her confinement, found her much weaker than when seen by me at my office, May 9th. Dilatation was far advanced, but owing to her debilitated condition, herself, mother, and friends were much discouraged, thinking that death would be the result very soon. After words of encouragement I administered quin. sulph., five grains, as a tonic and stimulant, indicated in the case, and after waiting one hour gave her Aletris Cordial, one drachm, fluid extract ergot one drachm, and delivered a large, healthy female baby by means of forceps. Her baby is now a fine, healthy child. I met her some time after, and she said: "Doctor, if you had not gave me that medicine before my time came, I would now be in my grave, sure; I thank you so much, and I feel quite well now." Aletris Cordial as a Uterine Tonic cannot be excelled; it is all that is claimed for it, and is, besides, perfectly safe and pleasant to the taste.—Wm. D. Bryant, M.D., Cainsville, Mo.

* Fresenius and Stutzer by analysis and microscopical examination, have shown Mellin's Food to be *wholly* free from starch.